

BERING SEA - ALEUTIAN ISLANDS STATE-WATERS GROUND FISH FISHERIES,  
AND GROUND FISH HARVEST FROM STATE WATERS UNDER PARALLEL  
MANAGEMENT IN 2000

By

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## ABSTRACT

The Alaska Department of Fish and Game manages fisheries for sablefish *Anoplopoma fimbria* and black rockfish *Sebastes melanops* in territorial waters of the Aleutian Islands. Territorial waters of the State of Alaska are from 0 to 3 nautical miles offshore. This report summarizes harvest and management of these fisheries since their inception, 1995 for sablefish and 1994 for black rockfish, through the 2000 season.

The Alaska Board of Fisheries created vessel size and gear restriction zones in state waters of the central Aleutian Islands. These regulations are summarized and their effects are discussed.

Federally managed groundfish fisheries occur in state waters throughout the Bering Sea – Aleutian Islands Area. This report summarizes the harvest from state waters in those fisheries from 1995 through 2000.

## INTRODUCTION

The Alaska Department of Fish and Game (ADF&G) manages three groundfish fisheries in the state waters of the Bering Sea – Aleutian Islands (BSAI) Area (Figure 1) and the South Alaska Peninsula Area. Those fisheries are sablefish *Anoplopoma fimbria*, black rockfish *Sebastes melanops*, and Pacific cod *Gadus macrocephalus*. Waters under the jurisdiction of the State of Alaska are from 0 to 3 nautical miles offshore. This report describes the sablefish fishery from 1995 through 2000 and the black rockfish fishery from 1994 through 2000. A separate ADF&G Regional Informational Report (Jackson and Ruccio 2001) covers the state managed Pacific cod fishery that occurs in a portion of this area.

The Alaska Board of Fisheries (BOF), in March 2000, established length and gear restrictions for vessels fishing Pacific cod and rockfish in the central Aleutian Islands between 175°30' and 177° W long. This report summarizes those regulations, which became effective in July 2000, and the initial effects of those regulations.

The state duplicates management measures of the National Marine Fisheries Service (NMFS) for other groundfish fisheries in the BSAI Area. ADF&G issues an emergency order (EO) on an annual basis that applies to those other groundfish fisheries. This EO modifies the commercial groundfish seasons; bycatch limits and gear types in state waters for those fisheries not managed by the State of Alaska to coincide with federal regulations in waters of the adjacent Exclusive Economic Zone (EEZ), 3 to 200 nautical miles offshore. This report summarizes the harvest of groundfish from state waters of the BSAI Area in those “parallel” fisheries from 1995 to 2000.

The following report is based on the ADF&G fish ticket database and the fish ticket software program *Neptune* as of May 2001. This report reflects the most recent additions and corrections to that database. The statistical area surrounding Bobrof Island in the central Aleutian Islands contains both state and federal waters; sablefish harvest from this area was considered as state-waters harvest unless verified as from federal waters by interview of the vessel captain or by logbook examination.

## ALEUTIAN ISLANDS STATE-WATER SABLEFISH FISHERY

### *Introduction*

In 1995, NMFS implemented an Individual Fishing Quota (IFQ) system for the harvest of sablefish in federal waters. This system did not account for a portion of the historical harvest of sablefish that came from the state waters of Alaska. The Alaska Department of Law advised that the harvest of sablefish in the state waters of Alaska could not be limited to only IFQ permit holders, therefore any holder of a valid Commercial Fisheries Entry Commission (CFEC) interim use permit for statewide sablefish could participate. A fishery for sablefish was established in areas of the state where the historical harvest of this species was of sufficient quantity to allow for a manageable fishery. The Aleutian Islands Area (as defined below) is the only area in the Westward Region a state-managed fishery could be established.

### *Description of Area*

The Aleutian Islands Area for the state-water sablefish fishery (Figure 2) encompasses all state waters of the Bering Sea south of the latitude of Cape Sarichef (54°36' N lat), and of the Pacific Ocean west of the longitude of Scotch Cap Light (164°44' W long). It includes waters of the state groundfish-registration areas BSAI south of Cape Sarichef, and South Alaska Peninsula from Scotch Cap Light to 170° W long (Figure 3). The federal areas adjacent to the state fishery are the Aleutian Islands Sablefish Regulatory Area, the Bering Sea Sablefish Regulatory Area south of Cape Sarichef, and the Western Gulf of Alaska Sablefish Regulatory west of Scotch Cap Light.

### *Fishery History*

The department established March 15 as the opening date and November 15 as the closing date for this new fishery, unless the guideline harvest level (GHL) was obtained and the fishery was closed earlier by EO. The opening and closing dates were chosen to run concurrent with the IFQ fishery, and the GHL, or harvest quota, was set according to recent state-water harvest history. Legal gear types for this fishery were, by regulation, trawls, longlines, pots, seines, mechanical jigging machines, hand troll, and dinglebar troll gear. Registration for the sablefish fishery was the same as for other groundfish fisheries, except vessels were registered only for that fishery.

#### **1995**

The 1995 sablefish fishery in state waters of the Aleutian Islands opened with a GHL of 400,000 pounds, the average harvest from this area during the previous four years. Most of the effort in the fishery occurred in conjunction with the federally-managed Greenland turbot *Reinhardtius hippoglossoides* and IFQ sablefish fisheries, and with the IFQ Pacific halibut *Hippoglossus stenolepis* fishery. A total of 35 vessels made 59 deliveries for a season harvest of 269,220 pounds round weight (Table 1 and Figure 4). The fishery was closed by regulation on November 15 after a 245-day season (Table 2). Average exvessel price in Dutch Harbor was \$2.96 per pound dressed weight; the estimated total value for the 1995 state water sablefish fishery was \$502,000. Eight non-quota vessels made 30 deliveries for 101,902 pounds (Figure 5), or 38% of the harvest (Table 3). There were 27 IFQ or community development quota (CDQ) vessels that made 29 deliveries for a total of 167,318 pounds, or 62% of the harvest. Two catcher-processors participated in the fishery, both of which had IFQ shares. Trawl vessels harvested over 15% of the sablefish taken, while longline vessels took the remainder (Table 4).

#### **1996**

A harvest range of 270,000 to 300,000 pounds was established for the 1996 season based on the 1995 NMFS survey which showed sablefish stock reductions in the federal Bering Sea, Aleutian Islands and Western Gulf of Alaska Sablefish Regulatory Areas. A GHL of 280,000 pounds was subsequently set during the season (Table 1). Effort increased during the 1996 season and the fishery was closed by emergency order on July 26, after a 133-day fishery (Table 2). At that time, 24 vessels had made 48 deliveries and harvested 294,384 pounds. Subsequent to the closure, 11 additional vessels made landings containing sablefish harvested from state waters. Eight of those vessels possessed IFQ or CDQ permits. Information concerning the late deliveries

was given to the Department of Public Safety, Division of Fish and Wildlife Protection (FWP). The total state-water harvest of sablefish in 1996 was 401,463 pounds round weight; a total of 35 vessels made 67 deliveries in this fishery (Table 1 and Figure 4). Average exvessel price per pound in Dutch Harbor was \$2.54 dressed weight; the estimated fishery value of all state-water activity was \$642,000 (Table 2). Nine non-quota vessels made 33 deliveries for a harvest of 227,245 pounds (Figure 5), or 57% of the total harvest (Table 3). There were 26 IFQ or CDQ vessels that participated in the fishery; they made 34 deliveries for 174,217 pounds, or 43% of the harvest. Five catcher-processors participated in the fishery, two of which had IFQ shares. While trawl and pot vessels did harvest sablefish from state waters, virtually all of the harvest was by longline vessels (Table 4).

## 1997

In 1997 the Dutch Harbor office of ADF&G issued a news release on March 12 announcing the GHL of 270,000 pounds (Table 1) and reminding all fishermen of the registration requirements necessary to participate in the state-waters sablefish fishery. The GHL was based in part on the 1996 NMFS survey, which showed no improvement in stock abundance. The reduction of 10,000 pounds was to adjust the state-water GHL to reflect the same percentage decrease as in the federal total allowable catch (TAC) since the 1995 season. The 1997 fishery was closed by EO on July 20 after a 127-day fishery (Table 2). Thirty-two vessels had made 58 deliveries and harvested 278,906 pounds. Subsequent to the closure, nine IFQ vessels and one CDQ vessel made deliveries that contained sablefish harvested from state waters. Information regarding these late deliveries was given to FWP. The total 1997 sablefish fishery in state waters had 37 unique vessels, which made 75 deliveries for a harvest of 317,562 pounds round weight (Table 1 and Figure 4). Average exvessel price per pound in Dutch Harbor was \$3.55 dressed weight; estimated fishery value for all state water activity was \$710,000 (Table 2). Sixteen non-quota vessels made 47 deliveries for 168,047 pounds (Figure 5), or 53% of the harvest (Table 3). There were 21 IFQ or CDQ vessels that made 28 deliveries for a total of 149,515 pounds, or 47% of the harvest. Three catcher-processors participated in the fishery, one of which had IFQ shares. Longline vessels harvested over 98% of the sablefish taken in 1997, pot vessels harvested less than 2% while trawl vessels harvested the remainder (Table 4).

## 1998

The GHL for 1998 was 270,000 pounds, the same as for the 1997 season (Table 1). The TAC for the federal Bering Sea and Aleutian Islands sablefish regulatory areas increased by 16 percent. However, the department did not increase the quota in state waters to help mitigate the over harvest, primarily by IFQ vessels, which occurred during the previous two seasons. The department issued a news release on March 12, 1998 announcing the GHL and notifying all fishermen of the registration requirements necessary to fish for sablefish in state waters. All area processors were contacted by department personnel and were requested to remind fishermen to register. Also, NMFS personnel in Dutch Harbor advised fishers to contact ADF&G regarding registration for the state-waters fishery. The fishery closed by regulation on November 15. A total of 38 vessels made 101 deliveries and harvested 254,578 round pounds during the fishery (Table 1 and Figure 4). Average exvessel price per pound in Dutch Harbor was \$2.18 dressed weight; estimated fishery value was \$350,000 (Table 2). Factors contributing to the lower performance may have been the low exvessel value of both sablefish and Pacific halibut that year, and an economically depressed Asian market. Twenty-one non-quota vessels participated

in the fishery, and they made 75 deliveries. The non-quota vessels delivered 107,703 pounds (Figure 5), which was 42% of the harvest (Table 3). Seventeen IFQ or CDQ vessels participated in the fishery and they made 26 deliveries. The IFQ or CDQ vessels delivered 146,875 pounds, or 58% of the harvest. Two catcher-processors participated in the fishery, both of which had IFQ shares. Longline vessels harvested 99% of the sablefish taken, while 1% was taken by trawl vessels (Table 4).

## 1999

For the 1999 sablefish fishery, ADF&G issued a news release on March 12 to announce the GHL of 250,000 pounds (Table 1). The federal TAC for the Bering Sea and Aleutian Islands federal regulatory areas increased slightly for 1999; however, the department decreased the 1999 GHL for state waters due to poor fishery performance in 1998. The news release informed all fishers of the registration requirements. All area processors were contacted by department personnel and were requested to remind fishers to register. Additionally, NMFS personnel in Dutch Harbor advised fishermen to contact ADF&G regarding sablefish registration for state waters. The fishery was closed by EO on August 16 after 154 days (Table 2), with a harvest of 249,017 pounds. Subsequent to the closure, 11 additional deliveries occurred. That harvest came from quota share fishers, primarily from CDQ fishers. A total of 24 vessels made 38 deliveries and harvested 279,778 pounds round weight during the 1999 fishery (Table 1 and Figure 4). Average exvessel price per pound in Dutch Harbor was \$2.69 dressed weight; estimated fishery value was \$474,000 (Table 2). The increase in fishery performance is reflective of the NMFS survey that showed an increase in sablefish abundance in 1997 and 1998. Seven non-quota and 17 IFQ/CDQ vessels participated in the fishery (two participated first as non-quota and later as quota vessels). Non-quota vessels made 15 deliveries, while quota vessels made 23 deliveries. Non-IFQ vessels delivered 149,053 pounds, which was 53% of the harvest; IFQ vessels delivered 130,725 pounds, or 47% of the harvest (Figure 5 and Table 3). Seven catcher-processors participated in the fishery. Six of the catcher-processors had IFQ or CDQ shares, a three-fold increase compared to prior years. Pot vessels harvested under 1% of the sablefish taken in 1999, trawl vessels took over 2% and the remaining 97% was taken by longline vessels (Table 4).

The majority of the harvest after the closure was by vessels participating in the Multi-Species CDQ (MS CDQ) Program. Regulations governing the program have mandatory retention requirements for all unobserved vessels as long as there is quota available for that species. This requirement includes sablefish harvested in state waters, and is in direct conflict with state regulations governing closed waters. No legal action regarding closed-water fishing was taken due to the conflicting regulations; fishers were advised that state regulations prevail in the territorial waters of Alaska and further retention of sablefish harvested from state waters would result in a citation. NMFS has indicated the federal retention regulation will be changed. One IFQ fisher was mistakenly registered to fish state waters after the closure that resulted in one late delivery; no legal action was taken.

## 2000 Fishery

The department issued a news release on March 16 announcing a GHL of 400,000 pounds (Table 1). This GHL represents a 60% increase over the 1999 fishery. Recent fishery performance, historic fishery harvest, and the federal TAC were used to determine the GHL for this state-

waters fishery. Fishery performance in 1999, in terms of pounds per delivery and date of fishery closure, exceeded that of the 1998 fishery, and was similar to that observed for the 1996 and 1997 fisheries. Harvest of sablefish in state waters since 1990 has averaged approximately 5% of the TAC established by the NMFS survey for the Eastern Bering Sea and Aleutian Islands Sablefish Regulatory Areas. Accordingly, the GHL for 2000 could have been over 426,000 pounds; however, the department reduced this amount to 400,000 pounds due to a history of continued harvest of sablefish from state waters after the closure announcement.

The fishery opened March 15 and deliveries began on April 1. The fishery harvest averaged approximately 2,400 pounds per day through April, and increased to over 3,600 pounds for the period from May 1 to June 10. The average daily harvest continued to increase to 4,900 pounds through July 13. With a total harvest of 386,000 pounds harvested through July 13, a closure was announced for noon July 15 (Table 2). At the closure, 21 vessels had made 45 deliveries for 400,436 pounds. Several fish tickets were submitted to department offices in other areas and were not included in closure calculations. Also, over 73,000 pounds of the total harvest at the time of the closure was from a statistical area that included both state and federal waters, or from fish tickets with incorrect statistical areas. All of this harvest was considered as state-water harvest for fishery management purposes. Department staff and FWP troopers have since verified 14,909 pounds were from federal waters of the EEZ. Subsequent to the closure one non-IFQ and seven IFQ vessels delivered an additional 35,000 pounds. All information regarding those late deliveries was turned over to FWP for subsequent legal action.

For the 2000 Aleutian Islands state-waters sablefish fishery, 28 vessels made 59 deliveries for a total harvest of 446,560 pounds (Table 1). Harvest peaked in May with all most 160,000 pounds (Figure 6). The number of deliveries and vessels also peaked in May, after which the harvest, number of vessels, and deliveries declined through the closure.

The average exvessel price per pound for the 2000 fishery was \$3.04 (Table 2), exceeding the 1999 exvessel price by \$0.35 per pound. The exvessel price was the second highest for the fishery since 1995. The fishery value to the fleet of \$855,000 was significantly higher than the \$474,000 for the 1999 fishery. The 2000 fishery value was the highest recorded for the state-water fishery.

Problems encountered during 1999 with the mandatory sablefish retention requirements of the MS-CDQ program did not occur in 2000. The retention requirement was intended to attain full accounting of fish harvested through the program. The survival of released sablefish is thought to be good, and therefore was not a conservation concern. The NMFS notified all CDQ groups early in the season that in waters under the jurisdiction of the State of Alaska the mandatory retention requirements would not be enforced if those waters have been closed by the state.

Four non-quota vessels participated in the fishery and made 24 deliveries (Figure 5). The non-quota vessels delivered 356,152 pounds, which was 80% of the harvest (Table 3). Twenty-four IFQ or CDQ vessels participated in the fishery and they made 35 deliveries. The IFQ or CDQ vessels delivered 90,408 pounds, or 20% the harvest. Two vessels participated first as non-quota and later as quota vessels. Seven catcher-processors participated in the fishery, six of which had IFQ or CDQ shares. Longline vessels harvested over 99% of the sablefish taken and pot vessels harvested the rest (Table 4).

The fishery was primarily conducted in the waters west of 175° W long. (Figures 7 and 8), which is consistent with recent fisheries. The harvest of 446,560 pounds is the most on record for the state-water fishery, while the 2000 season was the shortest since the fishery started in 1995 (Figure 9). The increase in fishery performance reflects the recent increase in abundance noted by the NMFS survey. Verbal information from the fleet indicated abundant sablefish throughout the entire area, especially the area west of Atka Island, and that predation by killer whales *Orcinus orca* continues to be a problem in the area east of 170° W long. The problems of killer whale encounters and a new processor located on Adak Island may help explain the general shift in effort to areas to the west (Figure 10).

### *Summary*

The Aleutian Islands state-waters sablefish fishery started in 1995. In the six-year history of this fishery 127 vessels have harvested over 1.96 million pounds, which produced an exvessel fishery value of over \$3.5 million. In the Aleutian Islands sablefish fishery through 2000, non-quota fishers accounted for 33% of the fleet, 56% of the deliveries, and 56% of the harvest. Nineteen catcher-processors have participated in this fishery through 2000, fourteen of which had quota shares.

The Aleutian Islands state-water fishery is open to all fishers with valid CFEC interim use permit for statewide sablefish. There has been a misconception by some CDQ and IFQ fishers who believe the federal permit allows fishing in state waters without registration and regardless of closures of state waters. Documentation of all violations has been provided to the Department of Public Safety, Division of Fish and Wildlife Protection for further action. ADF&G and NMFS have continued to increase efforts to educate the fishing fleet about state registration requirements.

The harvest of sablefish in state waters of the Aleutian Islands has decreased since 1985 from 1.4 million pounds to 254 thousand pounds in 1998. Harvest in the state-managed fishery was 269 thousand pounds during the first year, and has ranged through a low of 254 thousand pounds in 1998 and to a high of 447 thousand pounds in 2000.

### *Status of Stock*

The National Marine Fisheries Service has conducted annual longline surveys covering portions of the Aleutian Islands sablefish fishery area since 1978. Initially the survey, which was a cooperative effort with Japan, covered the Gulf of Alaska. The survey was expanded to include the Aleutian Islands in 1980 and the Eastern Bering Sea in 1982. Results of the surveys through 1994 show a decrease in sablefish abundance from a high in the mid 1980s.

In 1987 NMFS started an independent annual longline survey in the Gulf of Alaska. That survey was expanded to include biennial sampling of the eastern Aleutian Islands beginning in 1996 and the eastern Bering Sea beginning in 1997. The survey, which covers a portion of the state-water fishery area, shows an increase in abundance since 1997. Sablefish abundance, however, is still well below the levels observed in 1986 and 1987.

## ALEUTIAN ISLANDS BLACK ROCKFISH FISHERY

### *Introduction*

The department established a directed fishery for nearshore pelagic shelf rockfish in state waters of the eastern Aleutian Islands in December 1994. The pelagic shelf rockfish group includes black, blue *S. mystinus*, widow *S. entomelas*, yellowtail *S. flavidus* and dusky *S. ciliatus* rockfish. In the eastern Aleutian Islands this group is represented by black and dusky rockfish due to the limited distribution of the other species.

The establishment of this fishery was in response to local public inquiries regarding the possibility of a state-managed black rockfish fishery. Under federal management black and other pelagic shelf rockfish were included in the "other rockfish" assemblage. Other rockfish is a large species assemblage of fish that includes all rockfish species in the Bering Sea and Aleutian Islands except shortraker *S. borealis*, rougheye *S. aleutianus*, sharpchin *S. zacentrus*, northern *S. polyspinis* rockfish, and Pacific ocean perch *S. alutus*.

Directed fisheries in both state and federal waters for the other rockfish assemblage occurred prior to 1994, but were of progressively shorter duration. The fisheries were open to all gear types; however, they were managed as trawl fisheries as the harvest was predominantly by trawl vessels. Black and other pelagic shelf rockfish had become available to the local fleet primarily as bycatch in jig and longline fisheries for other groundfish.

In 1994 the other rockfish assemblage was managed as bycatch-only by NMFS; through November only 43% of the allowable catch of this assemblage had been taken. According to ADF&G fish ticket data, approximately 4% of that harvest was pelagic shelf rockfish, of which less than 1% was black rockfish. The department, with notification to NMFS and the North Pacific Fishery Management Council (NPFMC), assumed management authority of nearshore pelagic shelf rockfish for a state-water fishery by EO on December 21, 1994.

Registration for the black rockfish fishery was similar to other groundfish fisheries, except vessels were registered for only one month at a time. The short duration of the registration was to allow the department greater control of the fishery. All legal groundfish gear types, except seines, were allowed by regulation (pots, trawls, longlines, mechanical jigging machines, hand troll, and dinglebar troll gear). However, handlines and mechanical jigging machines were stipulated, by news release, as the gear types for this fishery. These gear types have a low level of exploitation that would not threaten to exceed the federal TAC for the other rockfish category and do not have the federal prohibited species bycatch caps of other gear types.

### *Description of Area*

The initial location of the black and dusky rockfish fishery in the eastern Aleutian Islands was the state waters immediately surrounding Unalaska, Sedanka, Unalga, Akutan, and Akun Islands. The area expanded in 1998 and the fishery only included black rockfish; these changes will be discussed in a subsequent section. The current Aleutian Islands black rockfish fishery encompasses all state waters south of the latitude of Cape Sarichef and west of the longitude of



Scotch Cap Light; it also includes federal waters of the EEZ between Scotch Cap Light and 170° W long. (Figure 11). This fishery occurs in waters that are part of the state Bering Sea-Aleutian Islands and South Alaska Peninsula registration areas, and in the Western Gulf of Alaska federal management area west of Scotch Cap Light. Federal areas adjacent to the state fishery area are the Bering Sea and the Aleutian Islands federal management areas (Figure 12).

### *Fishery History*

The Alaska Department of Fish and Game established two areas of harvest in the eastern Aleutian Islands in 1994: the state waters around Unalaska, Sedanka and Unalga Islands, and the state waters around Akutan and Akun Islands. A GHL of 100,000 pounds was established for this fishery (Table 5), 50,000 pounds from each area. This harvest level was deemed sufficient to demonstrate fishery potential, yet conservative enough to prevent overharvest. A conservative management policy for these slow-growing, long-lived, and non-migratory species, was considered necessary to prevent overexploitation.

#### **1994 to 1997**

The 1994 fishery opened at noon on December 21; only one vessel registered for the fishery. No harvest of pelagic shelf rockfish occurred in 1994 subsequent to the establishment of the directed fishery.

Fishing effort was minimal and sporadic throughout 1995. Fourteen vessels registered for the fishery. All harvest was as bycatch in the Pacific cod jig fishery. Harvest information is confidential because the actual number of vessels that participated was less than three.

In 1996 landings increased in the Unalaska, Sedanka and Unalga Islands area to a harvest of just over 17,000 pounds (Table 6 and Figure 13). Eighteen vessels registered for this fishery; only six vessels made deliveries. The average delivery was just over 1,400 pounds. Average exvessel price per pound in 1996 was \$0.18, for a fishery value of approximately \$3,100. The principal area of harvest was from the waters just north of Unalaska Island. The primary species of harvest was black rockfish, although dusky rockfish was also harvested. No effort was reported from the Akutan and Akun Islands area in 1996.

Fishing effort, in terms of number of landings and amount harvested, increased during 1997. The number of participating vessels, however, decreased in 1997. Harvest information by area is confidential due to the low number of vessels participating in each area (Table 6). Both harvest areas are combined for the purpose of this report. Nine vessels registered for the fishery in 1997. Three vessels made 18 landings for a total harvest of 102,746 pounds from the entire area (Figure 13). Average landing for the season was just over 5,700 pounds. Exvessel value averaged \$0.34 per pound during the 1997 fishery, which produced a total fishery value in excess of \$35,000 (Table 5).

Vessels started fishing in April and continued through October; most of the harvest occurred during September and October. The majority of effort took place along the outer coast of Sedanka Island and just south of Akutan Island. The fishery was closed by emergency order on November 1, 1997.

The total harvest represents both black and dusky rockfish. Analysis of fish ticket data shows dusky rockfish accounted for 7% of the harvest, however logbook data submitted by one operator showed dusky rockfish made up 28% of the harvest for that vessel. Area processors were notified of the possible misidentification and asked to provide positive identification of rockfish purchased. Also, the department provided identification information to responsible personnel at those area processors. Through analysis of otoliths obtained from limited dockside sampling in 1997, average age of black rockfish was 17 years; the harvested fish averaged 44 centimeters (cm) in length (Table 7). Dusky rockfish were an average 17 years old and 39 cm in length. All rockfish sampled in 1997 were from the waters around Sedanka Island.

## 1998

The nearshore rockfish fishery changed with the 1998 season. The area expanded to include all state waters of the Aleutian Islands south of Cape Sarichef and west of Scotch Cap Light, and all federal waters of the Pacific Ocean between Scotch Cap Light and 170° W long. As the management area expanded, the department established a new area of harvest; this area encompassed state waters west of 168° W long. The new area was established in response to public interest in a rockfish fishery in the vicinity of Atka Island. Also, ADF&G assumed management responsibility for black and blue rockfish in the waters of the EEZ in the Gulf of Alaska as the NPFMC passed Amendment 46 to the Groundfish Fishery Management Plan, which removed those species from the plan. Black and blue rockfish are shallow water nearshore pelagic shelf species that were not well assessed by federal surveys and not well addressed with current federal management practices. This action limited the directed harvest to only black rockfish in the Aleutian Islands. Blue rockfish have a limited distribution in Alaska and do not occur in the Aleutian Islands. The NMFS retained management authority over the other species of pelagic shelf rockfish (widow, yellowtail and dusky rockfish) in federal waters. This group is fully utilized in the federal fisheries; therefore dusky rockfish could now only be harvested as bycatch in the Aleutian Island rockfish fishery.

The guideline harvest level for the 1998 fishery was set at 40,000 pounds for both the Akutan and Unalaska Areas, and at 20,000 pounds for the area west of 168° W long. Directed fishing for black rockfish started July 21 in the Akutan Area. Five vessels made 29 deliveries for a total harvest of 38,296 pounds before the area was closed by EO on August 1 (Figure 13). Average exvessel price per pound was \$0.29, which produced a total fishery value of approximately \$11,100 (Table 5). The nature of the fishery also changed in 1998. The fishery was dominated by short day trips and small loads. The average delivery in 1998 was just over 1,300 pounds, compared to approximately 3,900 pounds for the prior years. A total of eight vessels registered for this fishery in 1998, four of which indicated they would operate in the Unalaska Area. However, no harvest of black rockfish was reported for that area and the fishery remained open to the end of the year. This marks the first year since 1994 that no commercial effort toward black rockfish occurred in the Unalaska Area.

## 1999

In 1999 the department renamed the areas of harvest. The names of these areas differed between news releases and reports, and between years. The new Akutan District has previously been referred to as the "Akutan Area" or "Akutan Section", or the "Akutan and Akun Island Area". The new Unalaska District was formerly referred to as the "Unalaska Area", "Unalaska Section",

or the "Unalaska, Sedanka, Unalga Islands Area". The new Western District was formerly the "Western Section" or simply referred to as west of 168° W long.

The department reduced the 1999 GHL in the Akutan and Unalaska Districts from 40,000 pounds to 35,000 pounds in each district. The reduction was due to departmental concerns of possible localized depletion of the black rockfish stock around Akutan Island and the eastern part of Unalaska Island. Since 1995 approximately 60% of the black rockfish harvested came from two statistical areas, one from just south of Akutan Island and the other from the outer coast of Sedanka Island. This reduction was announced by news release on April 22. Fishers were encouraged at that time to spread their effort from previously fished areas to lessen the impact on those local populations. The GHL for the Western District remained at 20,000 pounds. Five vessels participated in the 1999 directed fishery. Effort started in mid June and ceased by late September, although the fishery remained open for the rest of the year. No directed effort occurred during July; the participating vessels fished IFQ Pacific halibut at that time. In the directed fishery, 38 deliveries were made for a harvest of 20,866 pounds (Figure 13). Four more vessels made four deliveries with 23 pounds of black rockfish as a bycatch to other species. The total harvest for the state-managed fishery in 1999 was 20,889 pounds (Table 5), this included all state waters of the Aleutian Islands and federal waters of the Western Gulf of Alaska between 164°44' W long. and 170° W long. Average exvessel price per pound in 1999 was \$0.35 and the estimated fishery value was \$7,200.

Average delivery in the 1999 directed fishery was 550 pounds, less than in 1998 when the average was just over 1,300 pounds and significantly under the 3,900-pound average for the years 1996 and 1997. The decrease in average delivery may be due to smaller vessels making shorter trips. In 1999 the average vessel length of participating vessels was 20 feet, a decrease from 23 feet in 1998, and from 36 feet in the 1996 and 1997 fisheries. The average trip length was less than one day in 1999, the same as in 1998 and less than the two days in prior years. The lower average delivery in 1999 may also be due to localized depletion of the population most heavily fished. Directed harvest occurred in all three districts, but primarily occurred in the Akutan District. In the three years of harvest from the Akutan District, 61% has come from the area just south of Akutan Island. In 1999, 62% of the harvest came from just south of Akutan Island, and most of it was from the waters between Talus Point and Green Bight. Results from limited Akutan dockside sampling in 1999 show the average and median length of harvested black rockfish to be 45 cm. The average age was 16 years and the median age was 15 years. All sampled rockfish came from the area between Talus Point and Green Bight.

### ***2000 Fishery***

The department announced the 2000 GHL by news release on March 3. The GHLS were 35,000 pounds in the Akutan and Unalaska Districts and 20,000 pounds in the Western District, the same GHLS as in 1999. In 2000, the Akutan and Unalaska Districts were divided into subdistricts and sections, each with a separate GHL (Table 8), and the area just south of Akutan Island between Talus Point and Green Bight was closed to the retention of black rockfish for the 2000 fishery (Figure 14). The new subdistricts and sections were established to disperse fishing effort, and the assigned GHLS were based on the amount of potential habitat. Closure of the waters south of Akutan Island was due to department concerns of localized depletion in that area.

Ten vessels registered for the 2000 fishery, however all harvest information is confidential because fewer than three vessels made deliveries. In recent years, most of the fishers also possessed IFQ shares for Pacific halibut, and most fishing effort centered around that fishery. Participation in the black rockfish fishery has been secondary to that effort, as was the case this year. Weather, primarily wind direction, also limited fishing time for this small-vessel fleet.

Effort was sporadic, which limited dockside sampling to only one commercial delivery and several sport fishing trips from the Unalaska Bay/Wislow Section of the Unalaska District. Results of this sampling are not available at this time.

### *Summary*

Total harvest since 1995 is approximately 182,200 pounds. Most of that harvest came from the area just south of Akutan Island and from the outside waters of Sedanka Island (Figure 15). The fishery value to date is in excess of \$57,000. The fishery area expanded in 1998 to include all state waters of the Aleutian Islands west of Unalaska Island and federal waters of the Gulf of Alaska between 164°44' and 170° W long. The GHL was reduced by 10,000 pounds in 1999 due to concerns of over harvest. The Akutan and Unalaska Districts were divided into several subdistricts and sections in an attempt to disperse fishing effort in 2000. Also, the area just south of Akutan Islands between Talus Point and green Bight was closed to the retention of black rockfish to prevent localized depletion.

### *Status of Stock*

There has been little stock assessment activity by ADF&G in the Aleutian Islands for black rockfish. The department established a dockside-sampling program in 1999. Information obtained through this program will provide the department with basic population data, which will provide the basis for future management decisions.

## **ADAK VESSEL SIZE AND GEAR RESTRICTION AREAS**

In March of 2000 the BOF established gear and vessel length restrictions for Pacific cod and rockfish in the central Aleutian Islands. The areas affected by these new regulations are part of the nonexclusive BSAI Area. The effective date for these new regulations was July 5, 2000. The BOF defined two areas, each with different restrictions (Figure 16). The first area includes state waters between Adak, Great Sitkin and Tagalak Islands and waters adjacent to Adak Island in the Bay of Islands and between Boot Point and Cape Kagigikak. In this area, a vessel longer than 60 feet in length overall may not be used to take Pacific cod or rockfish. This regulation is effective throughout the year. Legal gear types are pot, longline, mechanical jig, and hand troll.

The second area encompasses all state waters between 175°30' and 177° W long. In this area, a vessel longer than 60 feet in overall length may not be used to take Pacific cod from May 1 to September 15. Legal gear types are pot, longline, mechanical jig, and hand troll.

There are no restrictions on the amount of hand troll, longline, or pot gear. A maximum of five mechanical jig machines may be operated from a vessel. The vessel length and gear restrictions do not apply to fisheries for other species in these two areas.

ADF&G manages the black rockfish fishery in state waters; all vessels targeting this species must be registered with the department for this fishery. All other fisheries are managed by NMFS; vessels participating in those fisheries must be registered to fish in state waters of the Westward Region.

These new regulations generated a lot of initial interest. However, little actual fishing effort resulted after they became effective. The department did not have a mechanism in place to determine the exact participation in the fisheries affected by these regulations. From ADF&G fish ticket data, however, 6 vessels 60 feet and less harvested 5,748 pounds of Pacific cod, and 4 vessels harvested 3,988 pounds of rockfish from state waters in the area after July 5. New statistical areas will become valid in January 2001, and will allow ADF&G to better track harvest in these new zones.

#### **GROUND FISH HARVEST FROM STATE WATERS OF THE BERING SEA – ALEUTIAN ISLANDS AREA IN PARALLEL MANAGED FISHERIES**

The department manages the sablefish and black rockfish fisheries in the state waters of the BSAI Area (Figure 1); all other groundfish fisheries are managed by NMFS. Those specific fisheries are for Pacific cod, walleye pollock *Theragra chalcogramma*, Atka mackerel *Pleurogrammus monopterygius*, Pacific ocean perch, red rockfish (shortraker, rougheye, sharpchin and northern rockfish), Greenland turbot, arrowtooth flounder *Atheresthes stomias*, flathead sole *Hippoglossoides elassodon*, yellowfin sole *Pleuronectes asper*, rock sole *P. bilineatus*, an aggregated rockfish species complex, and an aggregated flatfish species complex. Although these fisheries take place primarily in federal waters of the EEZ, some of the harvest occurs in waters under the jurisdiction of the State of Alaska. The term discarded in the following discussion refers to harvested fish discarded at sea or at the dock; utilized fish are those retained for any product (including fish meal), bait, personal use, or by the observer.

Harvest of Pacific cod in the state waters of the BSAI Area during 2000 was 7.8 million pounds taken by 125 vessels (Table 9). Most of the harvest came from directed pot (44%), trawl (35%) and longline (20%) fisheries (Table 10). Harvest of Pacific cod was predominately (91%) from the waters south of Cape Sarichef. The harvest has varied widely in recent years (Figure 17); the variation in harvest is not in relation to the total allowable catch (Figure 18). Virtually all of the Pacific cod harvested was utilized. The 2000 harvest was below the recent average harvest of 13.7 million pounds; the overall number of vessels and deliveries has decreased since 1995.

Walleye pollock harvest in the state waters of the BSAI Area in 2000 was 2.7 million pounds by 26 vessels (Table 9). Over 98% the harvest was from the waters north of 54°36' N lat., the latitude of Cape Sarichef on Unimak Island, and most of that harvest came from the waters around Amak Island. Walleye pollock harvest was primarily (85%) in directed fisheries; well over 99% of the harvest was by trawl vessels (Table 10). The harvest of walleye pollock from

1995 to 1998 was predominantly (89%) from the waters surrounding the Aleutian Islands. The low harvest in 2000, as in 1999, is mainly due to the closure of the Aleutian Islands west of 170° W long. to walleye pollock harvest. The overall decrease in harvest since 1995 (Figure 19) may be attributed to the decline in TAC (Figure 20). The number of vessels and deliveries has declined recently. Virtually all of the walleye pollock harvested was utilized.

Atka mackerel harvest in state waters around the Aleutian Islands in 2000 was 170,830 pounds, considerably less than in 1999 (Table 9 and Figure 21). The harvest of Atka mackerel from state waters is not directly related to the available TAC (Figure 22). One trawl vessel took 94% of the total harvest in the directed fishery; the rest was taken as bycatch in other trawl (2%), longline (3%) and pot (less than 1%) fisheries (Table 10). All harvest of Atka mackerel occurred in waters south of the latitude of Cape Sarichef. Eighty-five percent of the harvest was utilized.

There are 34 species of rockfish in Alaskan waters, of which 13 occur in the BSAI Area (Kramer and O'Connell, 1988). For management purposes these species are put into five groups. Pacific ocean perch is one group. In the Aleutian Islands, shortraker and rougheye rockfish are considered as a group, while sharpchin and northern rockfish form another group. In the Bering Sea shortraker, rougheye, sharpchin and northern rockfish are combined to form the "other red rockfish" group. All remaining rockfish species comprise the "other rockfish" group.

Harvest of Pacific ocean perch during 2000 occurred entirely in the waters surrounding the Aleutian Islands. Eight vessels harvested 4,672 pounds from state waters (Table 9). Effort and harvest in state waters varies yearly (Figure 23), and does not vary in relation to the TAC (Figure 24). All harvest was as bycatch in other fisheries, 92% of which was discarded at sea. Trawl vessels accounted for 92% of the total harvest, the remainder was taken by longline vessels (Table 10).

Twenty-one vessels fished for shortraker and rougheye rockfish in state waters during 2000 and harvested 13,145 pounds (Table 9). This harvest is similar to that in 1999 and is above the recent average of 10,500 pounds (Figure 25). Harvest in state waters is not in relation to the available TAC (Figure 26). All harvest was in the Aleutian Islands and was bycatch in other fisheries; longline vessels took 98% of the harvest (Table 10). Most of the harvest (73%) was utilized. Sharpchin and northern rockfish harvest in 2000 totaled 23,741 pounds (Table 9 and Figure 27), similar to that in 1999 and is above the recent average of 19,000 pounds. Harvest in state waters is not in relation to the available TAC (Figure 28). Sixteen vessels fishing state waters in 2000, which is the highest participation in recent years. All harvest in 2000 occurred as bycatch in other fisheries; over 67% of the harvest was taken by trawl vessels and 32% was taken by longline vessels (Table 10). Over 99% of the harvest was discarded. No harvest of other red rockfish occurred in state waters of the Bering Sea, despite available TAC, in the years 1995 through 2000.

Harvest of fish in the other rockfish group has varied over the last six years (Figure 29). Although the number of vessels remained relatively constant, the number of deliveries has varied widely. The available TAC has remained relatively constant during those years (Figure 30). Thirty-six vessels harvested 50,173 pounds from the waters in 2000 (Table 9), virtually all from waters around the Aleutian Islands. All harvest was bycatch in other fisheries. Over 97% was taken by longline vessels, 2% by trawl vessels, and pot and mechanical jig gear accounted for less than 1% (Table 10). Most of the harvest (83%) taken from state waters was utilized. Harvest

included the following species of rockfish: black, dusky, harlequin *Sebastes variegatus*, silvergray *S. brevispinis*, and thornyhead rockfish *Sebastolobus* spp. Approximately 22% of the harvest was not identified to species and was grouped as unspecified demersal rockfish, although, according to Kramer and O'Connell (1988), none of those species occur in the BSAI Area. Yelloweye *Sebastes ruberrimus* and canary *S. pinniger* rockfish were also reported as harvested in the area during 2000, although their presence in the BSAI Area is doubtful. Thornyhead rockfish accounted for 70% of the rockfish harvested in the BSAI Area from 1995 through 2000. Redbanded *Sebastes babcocki*, and darkblotched *S. crameri* rockfish were also harvested in this area from 1995 through 1999. The ADF&G fish ticket database also contains records of harvest for yellowmouth *Sebastes reedi*, greenstripe *S. elongatus*, rosethorn *S. helvomaculatus*, tiger *S. nigrocinctus* and copper *S. caurinus* rockfish although their occurrence in the BSAI Area is questionable.

There are 30 species of flatfish in Alaskan waters, 26 of which occur in the BSAI Area (Kramer, et. al., 1995). For management purposes these species are split into five fisheries. There are fisheries for Greenland turbot, yellowfin sole, rock sole, and flathead sole. All remaining flatfish species are harvested in a fishery for the species complex called other flatfish.

The 2000 harvest of Greenland turbot from the BSAI Area was entirely from the waters surrounding the Aleutian Islands. Twenty-two vessels harvested 123,071 pounds (Table 11); almost 99% of the harvest was by longline vessels, 1% by trawl vessels, and a negligible amount by vessels using pot gear (Table 10). The harvest of Greenland turbot in state waters has varied in recent years (Figure 31), and, except for 1998, is not directly related to the available TAC (Figure 32). Most (87%) of the harvest was utilized. While virtually all of the harvest occurred during the directed fishing season, most fishing effort was in conjunction with the Pacific halibut and sablefish fisheries.

Harvest of arrowtooth flounder in 2000 was above the 1995 through 1998 average harvest but greatly below the 1999 harvest (Figure 33). Twenty-eight vessels harvested 26,510 pounds (Table 11); 86% was from Aleutian Islands waters south of the latitude of Cape Sarichef. The harvest of arrowtooth flounder in 2000 was not in relation to the available TAC (Figure 34). Approximately 34% of the harvest was utilized. Longline vessels took 56% of the harvest, 43% was taken by vessels using trawl gear, and pot gear harvested less than 1% (Table 10). All harvest was as bycatch in other fisheries.

Rock sole harvest was primarily (96%) from the waters of the Aleutian Islands. The total harvest was 94,254 pounds, which was taken by 24 vessels (Table 11). Harvest levels have fluctuated widely (Figure 35) and do not appear to be directly related to the available TAC (Figure 36). Forty-six percent of the harvest was utilized in 2000, unlike previous years when almost all of the fish were discarded. Over 99% of the harvest was by trawl vessels (Table 10) and 73% of the harvest was during the open fishery period.

State water harvest of yellowfin sole in 2000 was 1,126 pounds taken by 5 vessels (Table 11). Vessels using longline gear took 57% of the harvest, whereas trawl vessels accounted for 40% and pot vessels 3% of the harvest (Table 10). All harvest was as bycatch in other fisheries. State water harvest varies widely between years (Figure 37). All of the harvest came from the Bering Sea in 2000, whereas 98% was from the Aleutian Islands in 1999 and 91% from waters north of the latitude of Cape Sarichef in 1998. Harvest of yellowfin sole in state waters has no direct

relationship to the available TAC (Figure 38). The amount of harvest that is utilized varies widely between years. Only 1% of the harvest was utilized in 2000.

Flathead sole state-water harvest in 2000 was 11,216 pounds by 20 vessels (Table 11). Eighty-eight percent of the harvest came from the waters around the Aleutian Islands. All flathead sole harvested in state waters was as bycatch. Trawl vessels took 97%, longline vessels 2%, and pot vessels 1% of the harvest (Table 10). Forty-four percent of the harvest in 2000 was utilized. The harvest varies by year (Figure 39) and is not directly related to the available TAC (Figure 40).

Harvest of fish in the "other flatfish" group has varied greatly from 1995, through 2000 (Figure 41). Trawl vessels harvested almost 99% of the total (Table 10). The harvest has not varied in relation to the available TAC (Figure 42). In 2000 the 10 vessels harvested 3,052 pounds (Table 11), primarily from the waters north of Cape Sarichef. In 2000, all harvest was as bycatch and only 9% of the harvest was utilized. Harvest included rex sole *Errex zachirus* and Alaska plaice *Pleuronectes quadrituberculatus*; most (89%) of the fish were not identified to species. In previous years, Dover sole *Microstomus pacificus*, starry flounder *Platichthys stellatus*, butter sole *P. isolepsis*, and English sole *P. vetulus* were also harvested.

### *Summary*

Harvest of fish from the state waters of Alaska, during parallel fisheries, from 1995 through 2000 has averaged approximately 38.3 million pounds per year and totaled more than 229.9 million pounds. The total harvest for that period included 137.6 million pounds of walleye pollock, 86.6 million pounds of Pacific cod, 1.1 million pounds of Atka mackerel, and approximately 1.0 million pounds of all rockfish species. Greenland turbot harvest during the six-year period was 1.5 million pounds, whereas harvest of arrowtooth flounder was over 825,000 pounds and rock sole was over 717,000 pounds. The remaining flatfish species harvest totaled just over 600,000 pounds. The harvest of walleye pollock from state waters generally varies according to the available TAC. Other groundfish harvest in state waters is generally independent of the TAC, and is probably due more to species distribution, prey distribution, weather, and other environmental factors.



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Table 1. Guideline harvest level, number of vessels, and deliveries, and the harvest in the Aleutian Islands state-waters sablefish fishery, 1995 - 2000.

Year	Guideline Harvest Level <sup>a</sup>	Number of		Harvest <sup>a</sup>
		Vessels	Deliveries	
1995	400,000	35	59	269,220
1996	280,000	35	67	401,463
1997	270,000	37	75	317,562
1998	270,000	38	101	254,578
1999	250,000	24	38	279,778
2000	400,000	28	59	446,560

<sup>a</sup> In pounds, round weight.

Table 2. Economic performance, season length, and dates in the Aleutian Islands state-waters sablefish fishery, 1995 - 2000.

Year	Fishery Value	Exvessel Value <sup>a</sup>	Season Length <sup>b</sup>	Season Dates	
				Opened	Closed
1995	\$502,000	\$2.96	245	15-Mar	15-Nov
1996	\$642,000	\$2.54	133	15-Mar	26-Jul
1997	\$710,000	\$3.55	127	15-Mar	20-Jul
1998	\$350,000	\$2.18	245	15-Mar	15-Nov
1999	\$474,000	\$2.69	154	15-Mar	16-Aug
2000	\$855,000	\$3.04	122	15-Mar	15-Jul

<sup>a</sup> Per pound dressed weight.

<sup>b</sup> In days.

Table 3. Percent of the fleet, deliveries, and harvest in the Aleutian Islands state-water sablefish fishery by non-quota and quota vessels, 1995 - 2000.

Year	Non-quota Vessels <sup>a</sup>			Quota Vessels <sup>b</sup>		
	Fleet	Deliveries	Harvest	Fleet	Deliveries	Harvest
1995	23%	51%	38%	77%	49%	62%
1996	26%	49%	57%	74%	51%	43%
1997	43%	63%	53%	57%	37%	47%
1998	55%	74%	42%	45%	26%	58%
1999	29%	39%	53%	71%	61%	47%
2000	14%	41%	80%	86%	59%	20%
Average	33%	56%	56%	67%	44%	44%

<sup>a</sup> Vessels without individual fishing quota or community development quota shares.

<sup>b</sup> Vessels with individual fishing quota or community development quota shares.

Table 4. Harvest in pounds by gear type in the Aleutian Islands state-waters sablefish fishery, 1995 - 2000.

Year	Longline	Trawl	Pot	Total
1995	227,917	41,303	0	269,220
1996	401,429	26	8	401,463
1997	312,506	20	5,036	317,562
1998	252,398	2,180	0	254,578
1999	272,240	6,268	1,270	279,778
2000	446,112	0	448	446,560
Total	1,912,602	50,399	6,785	1,969,161

Table 5. Aleutian Islands rockfish fishery harvest statistics and economic performance, 1994 – 2000.

Year	Guideline Harvest Level <sup>1a</sup>	Number of		Harvest <sup>a</sup>	Exvessel Value <sup>b</sup>	Fishery Value
		Vessels	Deliveries			
1994 <sup>c</sup>	100,000	NO COMMERCIAL HARVEST				
1995 <sup>c</sup>	100,000	CONFIDENTIAL				
1996 <sup>c</sup>	100,000	6	13	17,203	\$0.18	\$ 3,100
1997 <sup>c</sup>	100,000	3	18	102,746	\$0.34	\$35,000
1998 <sup>d</sup>	100,000	5	29	38,296	\$0.29	\$11,100
1999 <sup>d</sup>	90,000	9	41	20,889	\$0.35	\$7,200
2000 <sup>d</sup>	90,000	CONFIDENTIAL				

<sup>a</sup> In pounds, round weight.

<sup>b</sup> Per pound round weight.

<sup>c</sup> Black and dusky rockfish.

<sup>d</sup> Black rockfish only.

Table 6. Aleutian Islands rockfish fishery harvest by area, 1994 – 2000.

Year	Akutan District		Unalaska District		Western District	
	GHL <sup>a</sup>	Harvest	GHL <sup>a</sup>	Harvest	GHL <sup>a</sup>	Harvest
1994 <sup>b</sup>	50,000	0	50,000	0	NA	
1995 <sup>b</sup>	50,000	0	50,000	Confidential	NA	
1996 <sup>b</sup>	50,000	0	50,000	17,203	NA	
1997 <sup>b</sup>	50,000	Confidential	50,000	Confidential	NA	
1998 <sup>c</sup>	40,000	38,296	40,000	0	20,000	0
1999 <sup>c</sup>	35,000	13,465	35,000	Confidential	20,000	Confidential
2000 <sup>c</sup>	35,000	Confidential	35,000	Confidential	20,000	Confidential

<sup>a</sup> Guideline harvest level in round pounds.

<sup>b</sup> Black and dusky rockfish.

<sup>c</sup> Black rockfish only.

“NA” = ‘not applicable’

Table 7. Black rockfish age (estimated from otoliths) and length data obtained from fish harvested along the outer coast of Sedanka Island in 1997 and south of Akutan Island in 1999.

Year	Sample Size	Age <sup>a</sup>		Length <sup>b</sup>	
		Average	Range	Average	Range
1997	9	17.1	11 to 32	43.9	35 to 49
1999	92	15.9	8 to 30	45.3	37 to 51

<sup>a</sup> In years.

<sup>b</sup> In centimeters.



Table 8. Aleutian Islands black rockfish fishery guideline harvest levels (GHL) in pounds, round weight, by district, subdistrict, and section for the 2000 fishery.

District	Subdistrict	Section	GHL
Akutan	Akutan Island		10,000 Pounds
	Akun Island		10,000 Pounds
	Rootok Island		5,600 Pounds
	Tigalda Island		9,400 Pounds
Unalaska	Unalaska Island	Unalaska Bay/Wislow Section	3,000 Pounds
		Kalekta/English Bay Section	1,300 Pounds
		Beaver Inlet Section	2,300 Pounds
		West Unalaska Section	12,850 Pounds
		South Unalaska Section	12,300 Pounds
	Sedanka Island		2,500 Pounds
	Unalga Island		750 Pounds
Western			20,000 Pounds

Table 9. Harvest, number of vessels, and deliveries from state waters of Alaska in the parallel managed Pacific cod, walleye pollock, Atka mackerel, Pacific ocean perch, shortraker/rougheye rockfish, sharpchin/northern rockfish, and other rockfish fisheries in the Bering Sea - Aleutian Islands Area, 1995 - 2000.

Year		Pacific Cod	Walleye Pollock	Atka Mackerel	Pacific Ocean Perch	Shortraker Rougheye Rockfish	Sharpchin Northern Rockfish	Other Rockfish
1995	Harvest	21,704,155	28,412,778	275,780	48,055	17,505	2,221	33,776
	Vessels	192	47	43	23	24	7	44
	Deliveries	1,110	91	101	37	27	8	100
1996	Harvest	19,613,804	21,323,794	103,032	105,399	11,672	57,779	82,484
	Vessels	189	55	13	30	26	10	45
	Deliveries	1,030	103	21	42	34	12	78
1997	Harvest	7,023,993	19,477,896	18,536	24,153	9,159	467	128,076
	Vessels	153	43	13	26	26	3	40
	Deliveries	534	74	19	36	31	3	87
1998	Harvest	12,206,865	13,547,679	12,336	98,954	4,470	11,095	75,095
	Vessels	134	48	11	25	4	6	46
	Deliveries	447	93	16	40	9	8	138
1999	Harvest	18,281,773	1,781,875	495,117	44,276	13,551	23,128	125,663
	Vessels	162	26	16	13	9	14	43
	Deliveries	576	43	20	20	12	18	86
2000	Harvest	7,755,051	2,686,974	170,830	4,672	13,145	23,741	51,173
	Vessels	125	26	17	8	21	16	36
	Deliveries	292	32	25	10	27	25	75

Table 10. Harvest by gear type from state waters of Alaska in the parallel managed Pacific cod, walleye pollock, Atka mackerel, Pacific ocean perch, shortraker/rougheye rockfish, sharpchin/northern rockfish, other rockfish, Greenland turbot, arrowtooth flounder, rock sole, yellowfin sole, flathead sole, and other flatfish fisheries in the Bering Sea - Aleutian Islands Area, 1995 - 2000.

Fishery	Year	Trawl	Longline	Pot	Mechanical Jig	Hand Troll
Pacific Cod						
	1995	12,265,060	2,029,261	5,583,601	769,828	4,077
	1996	5,923,027	446,532	11,551,781	397,351	14,652
	1997	827,283	1,476,500	2,111,398	208,215	2,178
	1998	3,975,800	4,128,820	3,624,994	209,937	379
	1999	8,997,527	1,447,771	7,545,191	353,454	0
	2000	2,745,609	1,545,391	3,415,893	48,061	103
Pollock						
	1995	28,411,848	15	267	648	0
	1996	21,226,740	0	97,055	0	0
	1997	19,451,133	3	24,595	2,165	0
	1998	13,540,292	6,114	1,274	0	0
	1999	1,780,639	918	319	0	0
	2000	2,685,103	685	2,824	0	0
Atka Mackerel						
	1995	434,834	2	4,447	1,193	0
	1996	102,296	0	744	0	0
	1997	17,664	3	43	0	0
	1998	11,161	0	115	0	0
	1999	533,652	675	150	0	0
	2000	164,118	5,930	781	0	0
Pacific Ocean Perch						
	1995	33,728	0	93	62	0
	1996	68,784	0	0	0	0
	1997	6,838	0	3,694	0	0
	1998	95,113	0	0	0	0
	1999	37,838	9	896	0	0
	2000	4,290	382	0	0	0

-Continued-

Table 10. (Page 2 of 3)

Fishery	Year	Trawl	Longline	Pot	Mechanical Jig	Hand Troll
Shortraker-Rougheye Rockfish						
	1995	241	13,645	0	194	0
	1996	519	10,246	0	0	0
	1997	1,078	7,247	0	0	0
	1998	1,732	3,506	0	0	0
	1999	1,207	10,092	0	0	0
	2000	169	12,976	0	0	0
Sharpchin-Northern Rockfish						
	1995	2,186	0	0	0	0
	1996	57,746	0	21	0	0
	1997	0	0	0	0	0
	1998	9,658	0	0	0	0
	1999	21,811	184	262	0	0
	2000	16,065	7,592	4	80	0
Other Rockfish						
	1995	1,376	25,402	20	330	0
	1996	125	43,613	81	15,320	0
	1997	757	20,115	26	300	0
	1998	6,138	25,590	158	0	0
	1999	9,308	16,534	187	0	0
	2000	1,072	48,971	24	106	0
Greenland turbot						
	1995	174,281	111,906	18	4	0
	1996	760	175,618	0	0	0
	1997	1,417	93,250	0	0	0
	1998	1,022	338,314	0	0	0
	1999	11,138	74,419	1,051	0	0
	2000	1,523	121,543	5	0	0

-Continued-

Table 10. (Page 3 of 3)

Fishery	Year	Trawl	Longline	Pot	Mechanical Jig	Hand Troll
<b>Arrowtooth flounder</b>						
	1995	11,484	9,009	26	283	0
	1996	33,038	1,451	27	0	0
	1997	16,035	4,882	30	0	0
	1998	30,340	832	0	0	0
	1999	749,169	3,457	0	0	0
	2000	11,520	14,905	85	0	0
<b>Rock sole</b>						
	1995	52,460	0	110	0	0
	1996	121,696	0	12	0	0
	1997	63,863	0	50	0	0
	1998	135,518	0	17	0	0
	1999	210,956	0	271	0	0
	2000	94,228	1	24	0	0
<b>Yellowfin sole</b>						
	1995	170	0	2,887	0	0
	1996	87,333	0	669	0	0
	1997	10	0	83	0	0
	1998	9,694	0	77	0	0
	1999	55,521	3	1,164	0	0
	2000	452	636	38	0	0
<b>Flathead sole</b>						
	1995	2,064	0	55	0	0
	1996	70,285	0	5	0	0
	1997	29,254	0	0	0	0
	1998	39,119	0	2,768	0	0
	1999	77,466	431	300	0	0
	2000	10,895	240	81	0	0

-Continued-

Table 10. (Page 4 of 4)

Fishery	Year	Trawl	Longline	Pot	Mechanical Jig	Hand Troll
Other flatfish						
	1995	854	0	357	0	0
	1996	39,658	10	2	0	0
	1997	33,599	0	81	0	0
	1998	59,618	5	1,017	0	0
	1999	46,646	0	0	0	0
	2000	3,011	1	40	0	0

Table 11. Harvest, number of vessels and deliveries from state waters of Alaska in the parallel managed Greenland turbot, arrowtooth flounder, rock sole, yellowfin sole, flathead sole, and other flatfish fisheries in the Bering Sea -Aleutian Islands Area 1995 - 2000.

Year		Greenland Turbot	Arrowtooth Flounder	Rock Sole	Yellowfin Sole	Flathead Sole	Other Flatfish
1995	Harvest	307,033	20,822	52,811	3,074	2,151	1,243
	Vessels	37	32	14	8	12	12
	Deliveries	63	61	26	16	19	20
1996	Harvest	395,735	37,724	126,012	88,015	73,943	40,339
	Vessels	57	36	27	17	26	29
	Deliveries	86	49	42	25	39	40
1997	Harvest	183,937	35,179	85,065	229	43,645	35,547
	Vessels	45	29	18	9	21	26
	Deliveries	77	42	29	11	36	40
1998	Harvest	376,015	31,787	147,564	10,302	43,296	60,768
	Vessels	28	22	28	13	22	35
	Deliveries	85	35	51	17	41	56
1999	Harvest	129,937	673,331	211,701	56,686	78,986	46,667
	Vessels	20	22	21	10	14	16
	Deliveries	35	37	43	13	29	20
2000	Harvest	123,071	26,510	94,254	1,126	11,216	3,052
	Vessels	22	28	24	5	20	10
	Deliveries	42	44	45	5	26	11

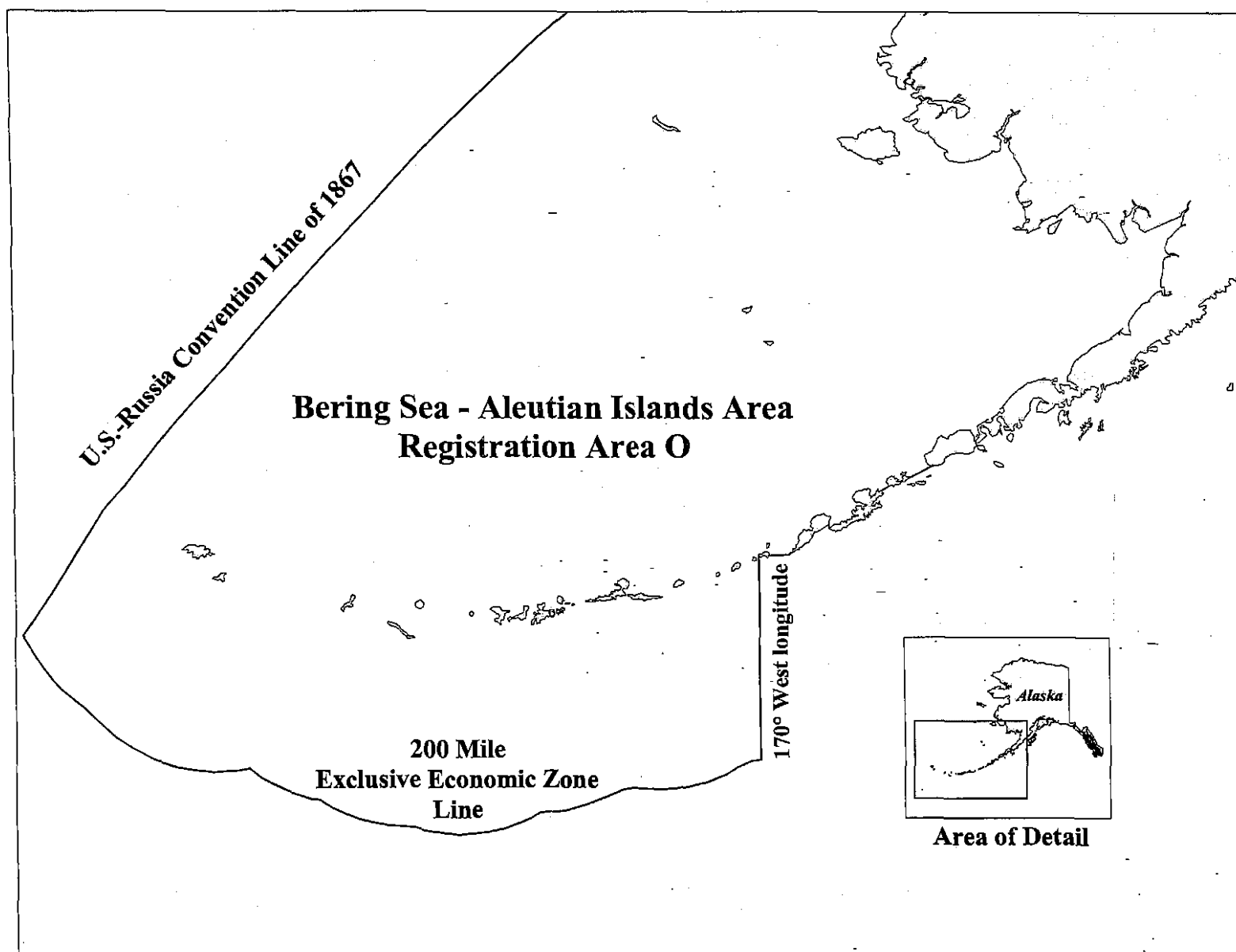


Figure 1. The Bering Sea – Aleutian Islands Area for groundfish management.



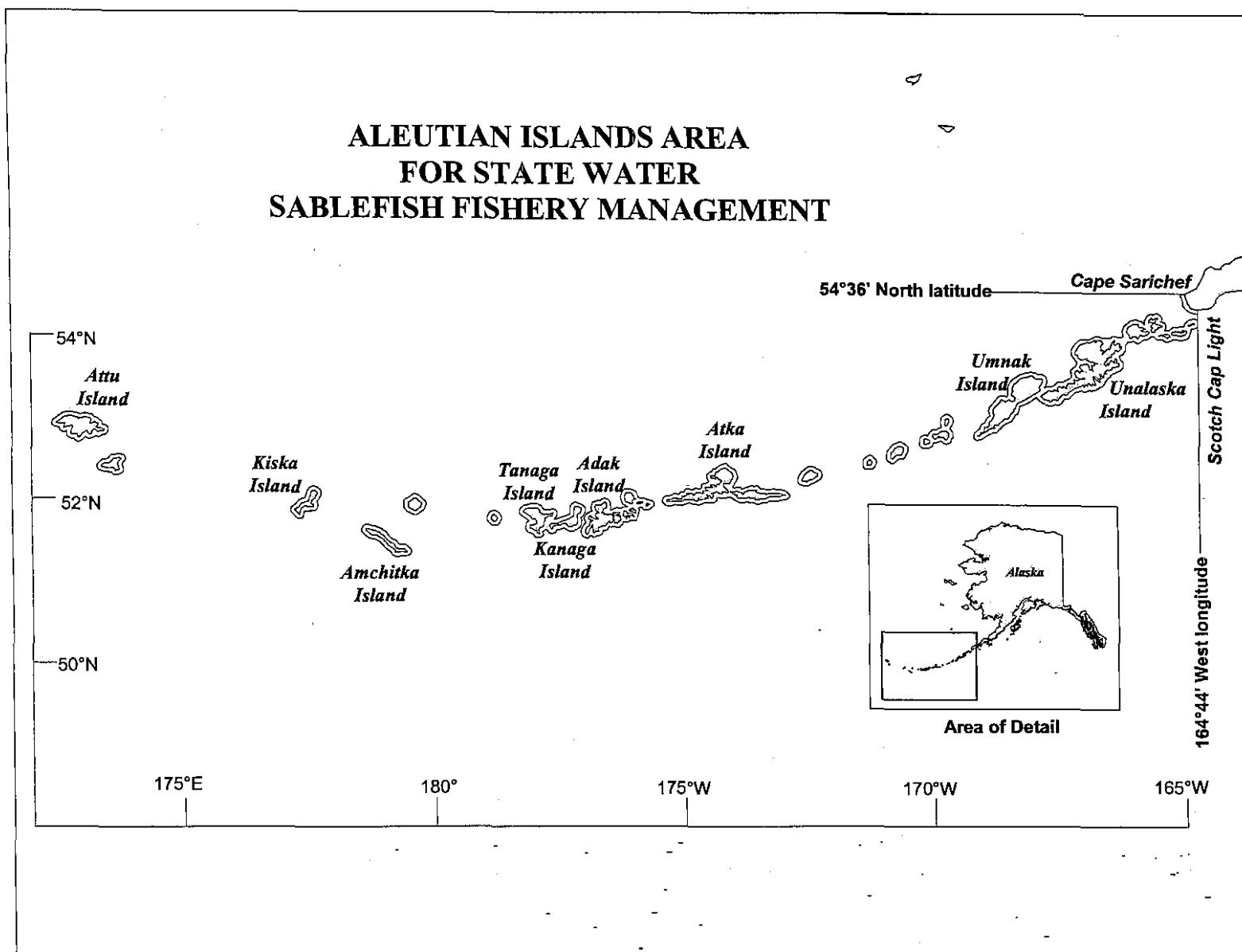


Figure 2. The Aleutian Islands Area for state-water sablefish fishery management.

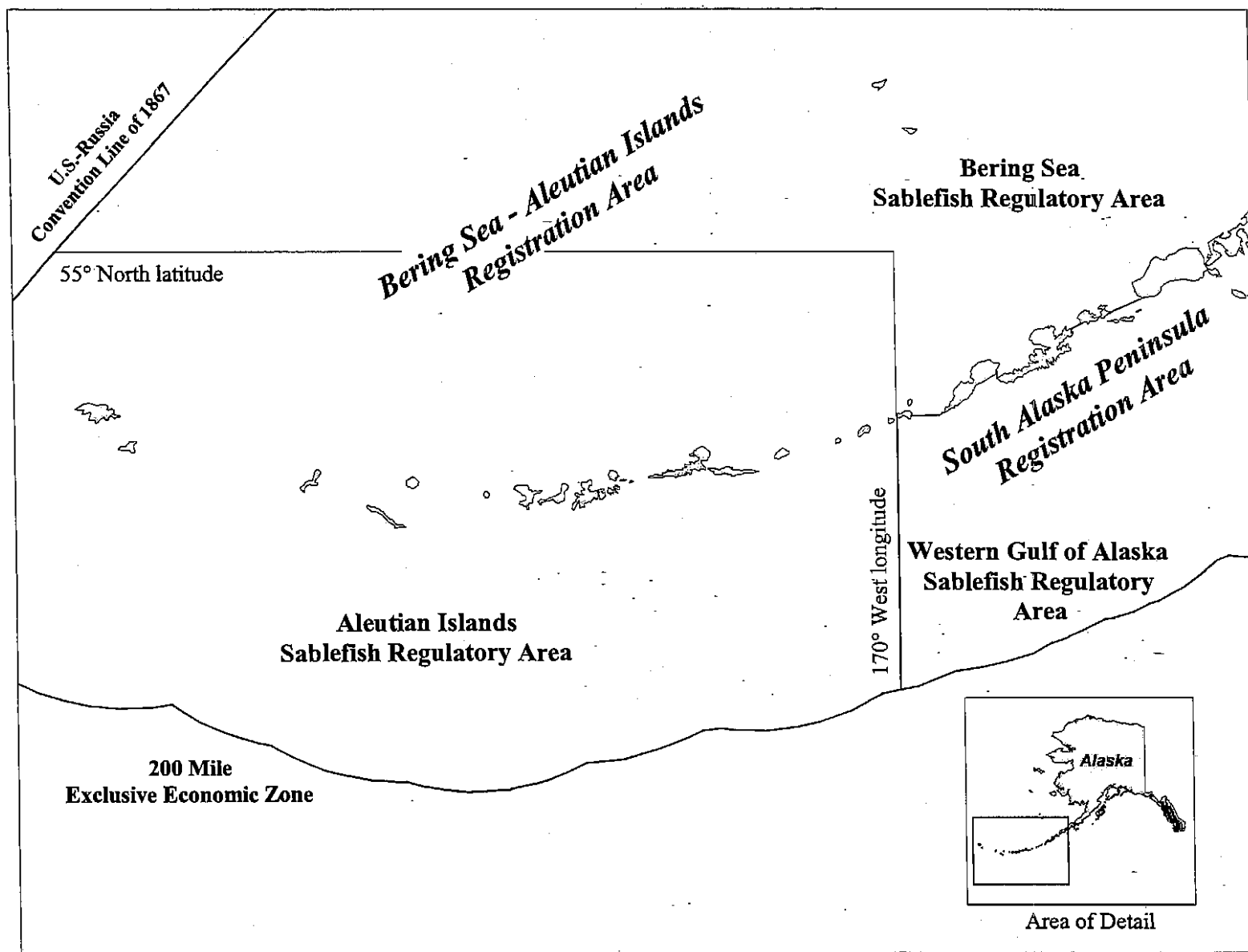


Figure 3. The state registration and federal regulatory areas in southwestern Alaska.

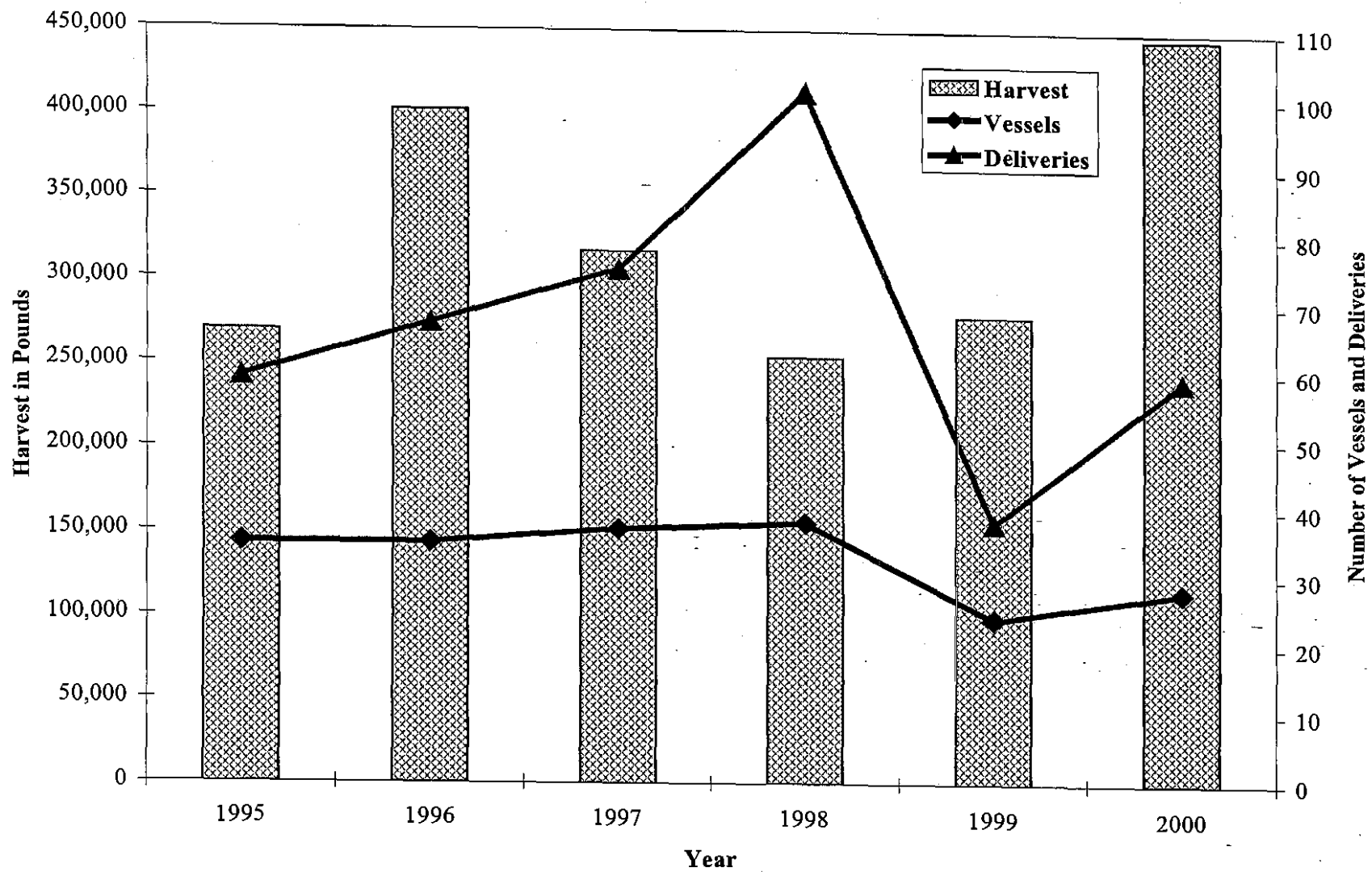


Figure 4. Harvest, number of vessels, and landings occurring in the Aleutian Islands state-waters sablefish fishery, 1995 - 2000.

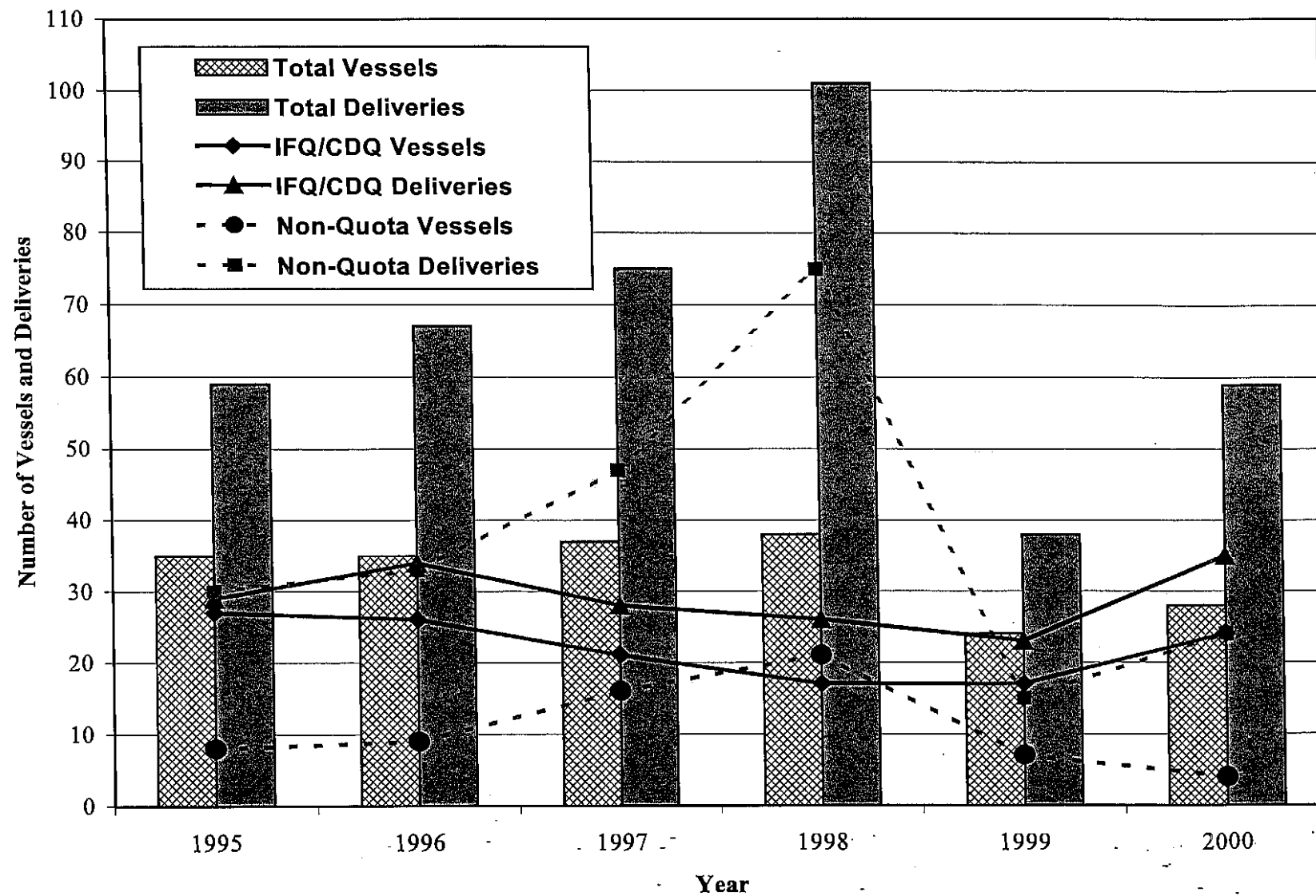


Figure 5. Number of vessels and deliveries by non-quota and IFQ/CDQ participants in the Aleutian Islands state-waters sablefish fishery, 1995 – 2000.

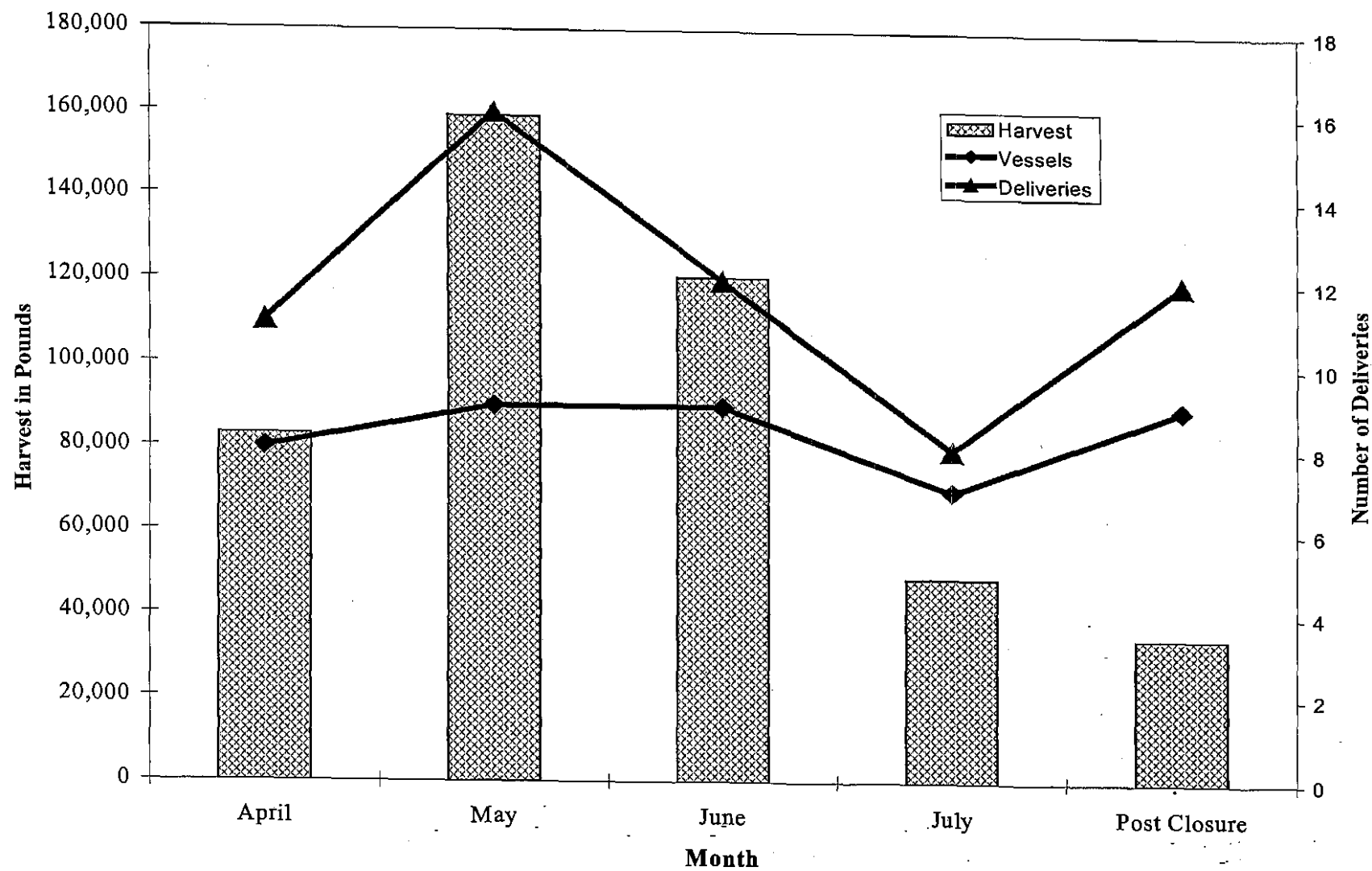


Figure 6. Harvest, number of vessels and deliveries by month in the 2000 Aleutian Islands state-waters sablefish fishery.

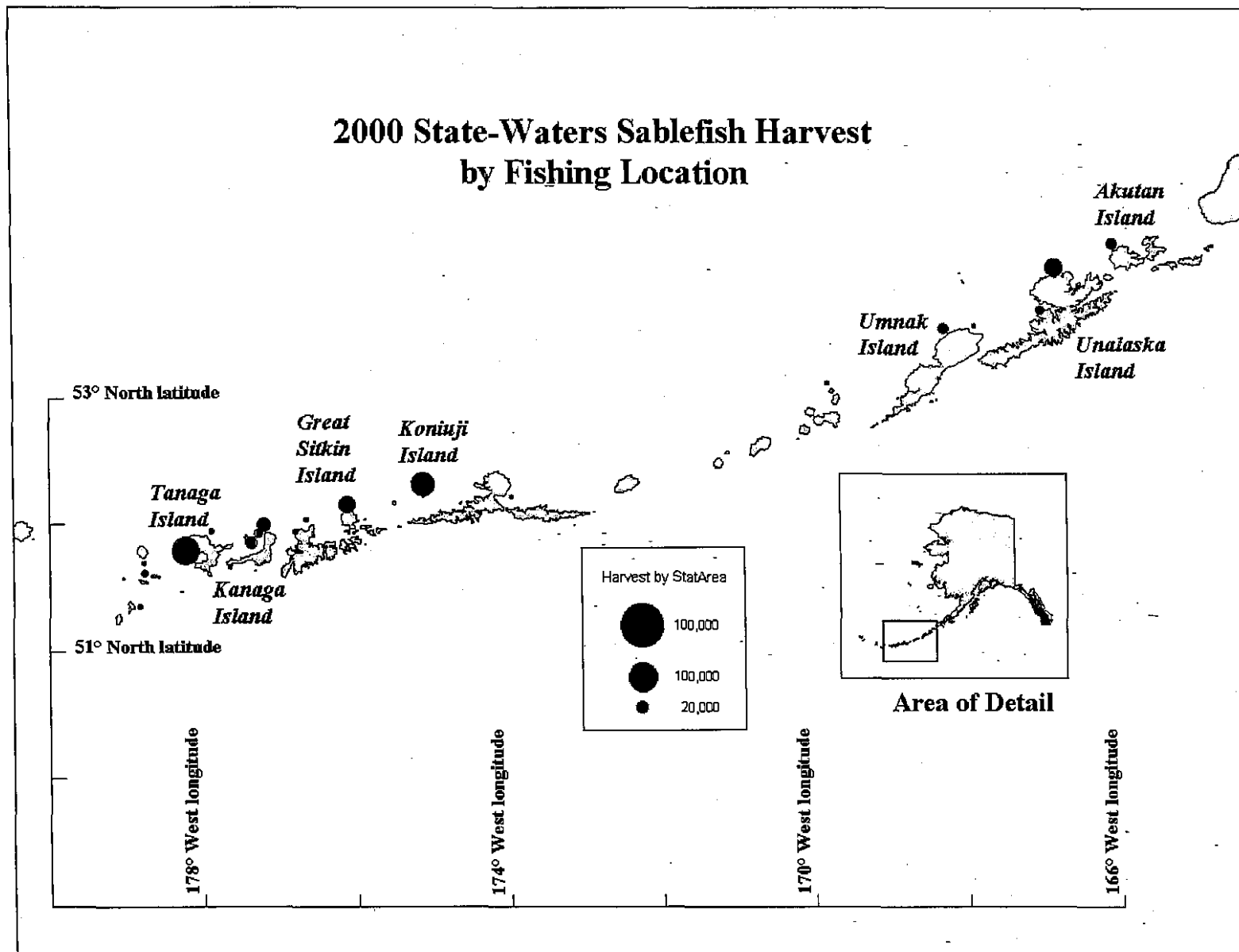


Figure 7. Observed harvest areas of the 2000 state water sablefish fishery based on fish ticket data.

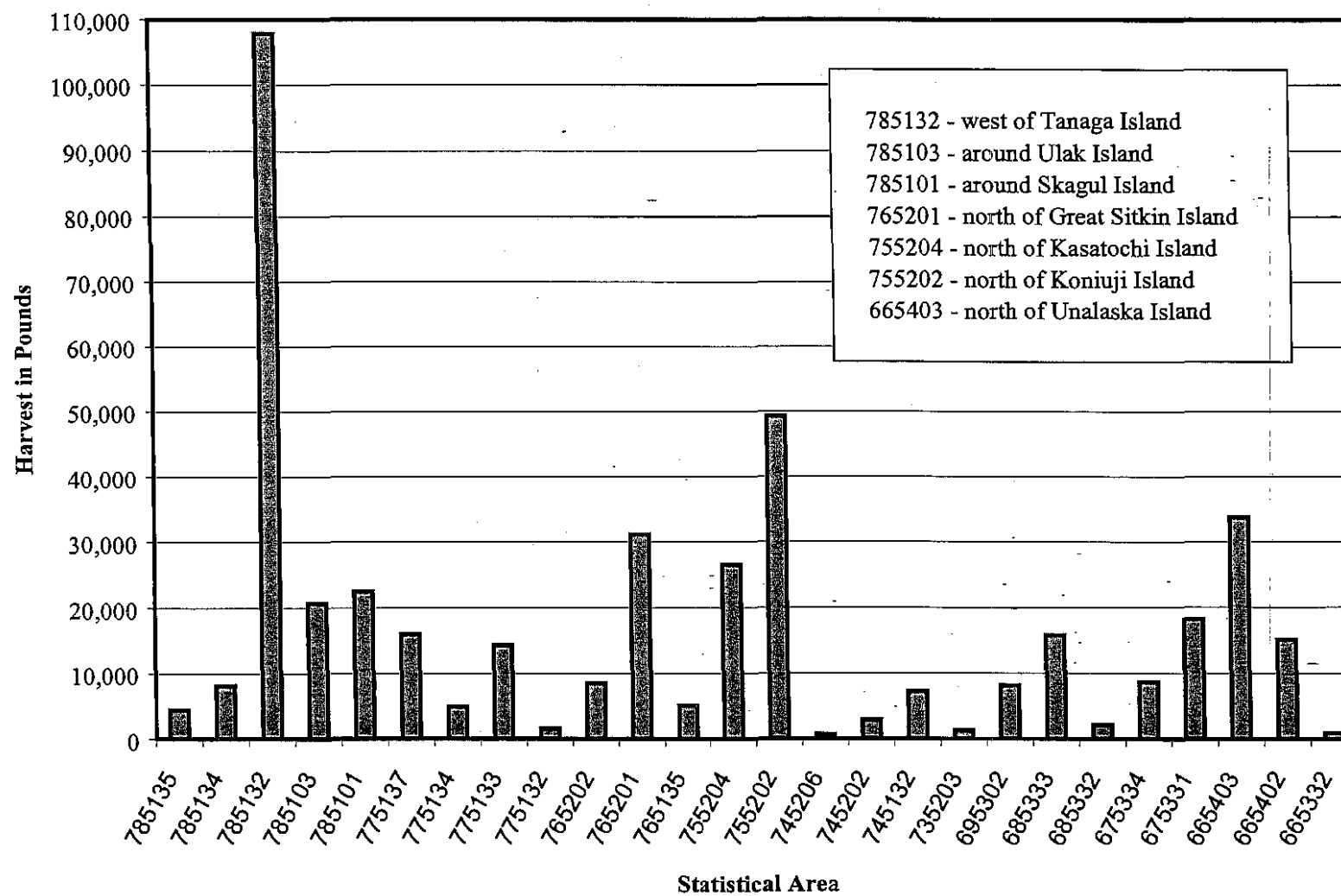


Figure 8. The harvest of Aleutian Islands sablefish in 2000, by statistical area, noting the islands adjacent to the waters with a harvest of 20,000 pounds or more.

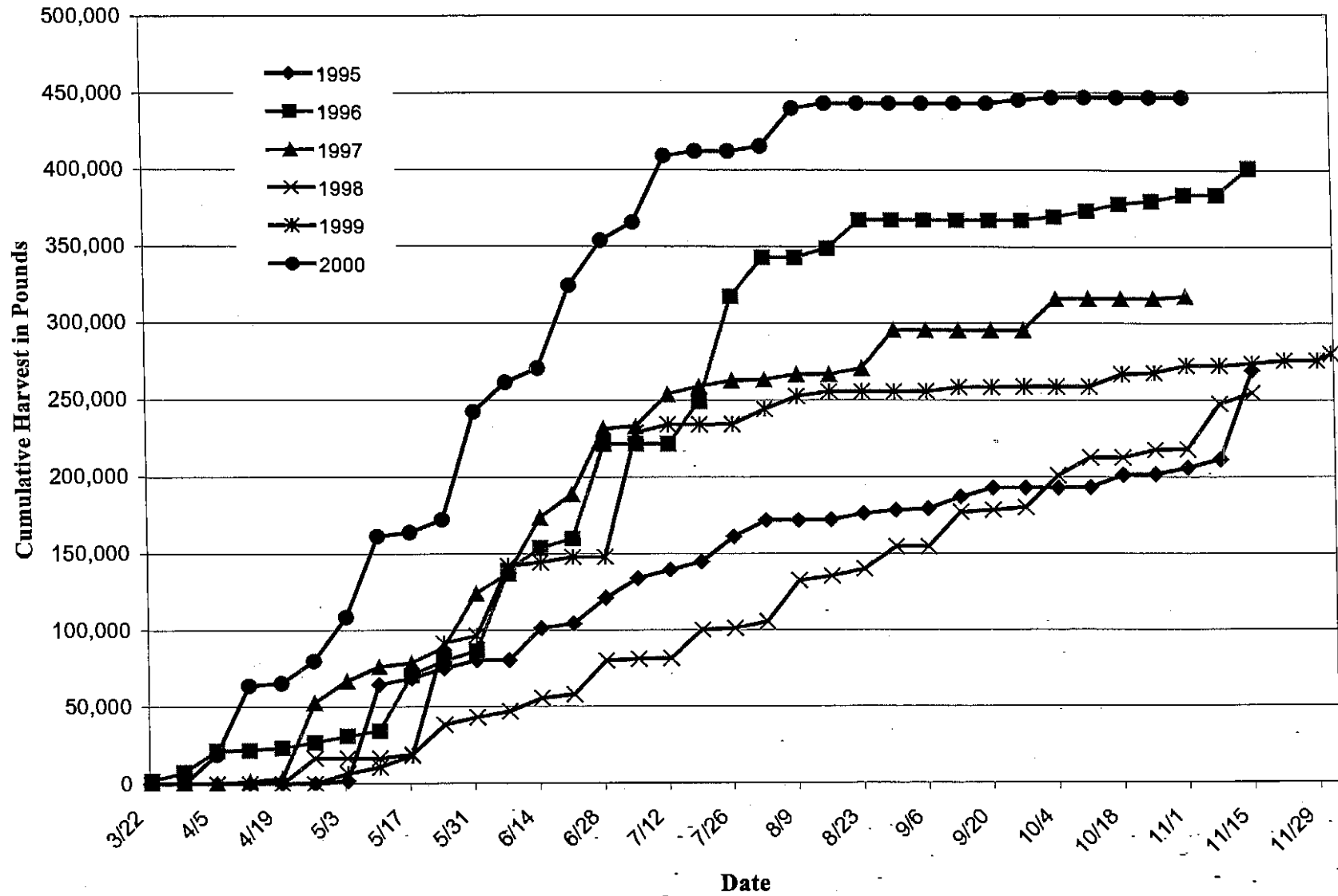


Figure 9. Cumulative landed harvest in the Aleutian Islands state-waters sablefish fishery by week and year, 1995 - 2000.



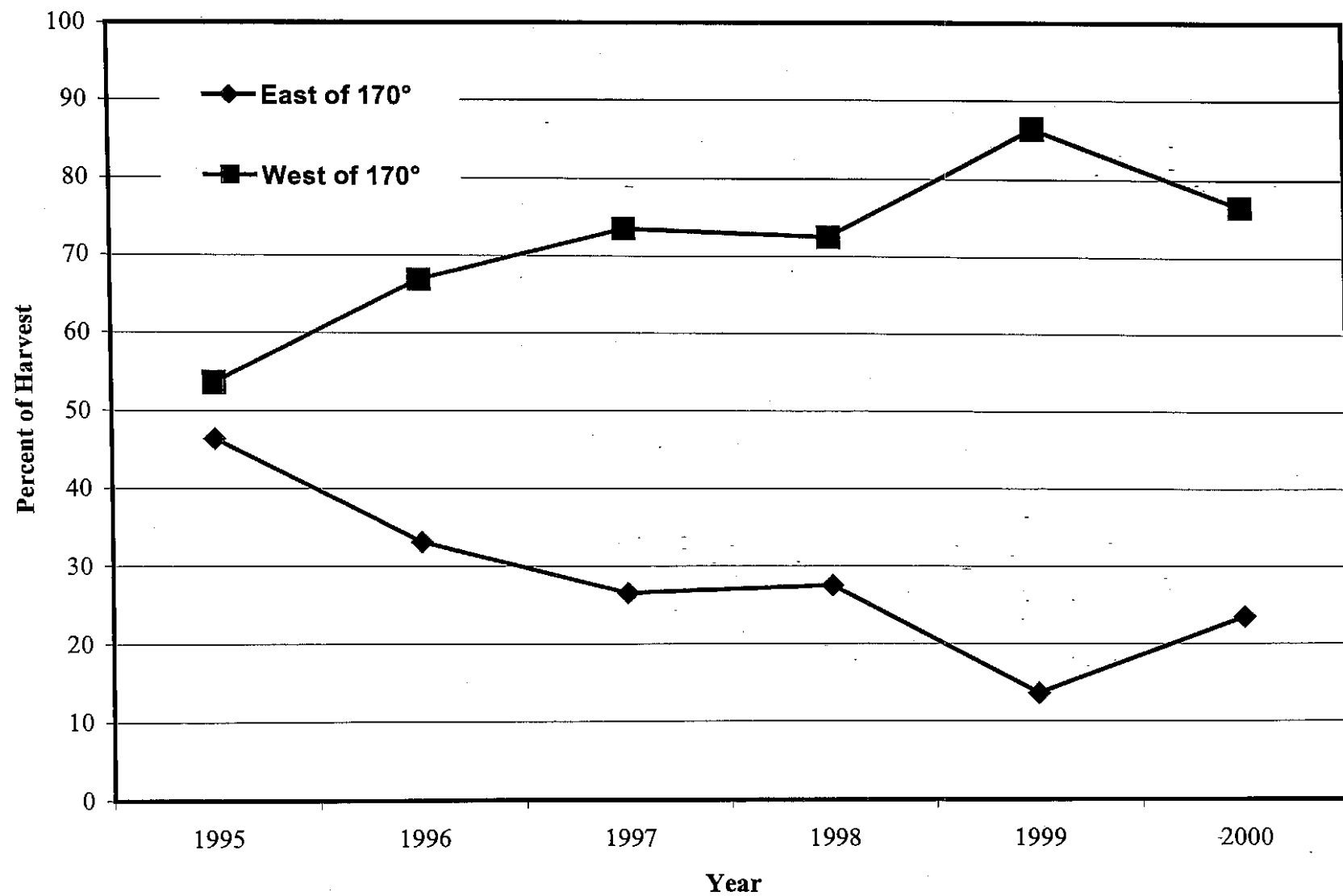


Figure 10. Percentage of harvest east and west of 170° West longitude in the Aleutian Islands sablefish fishery, 1995 - 2000.

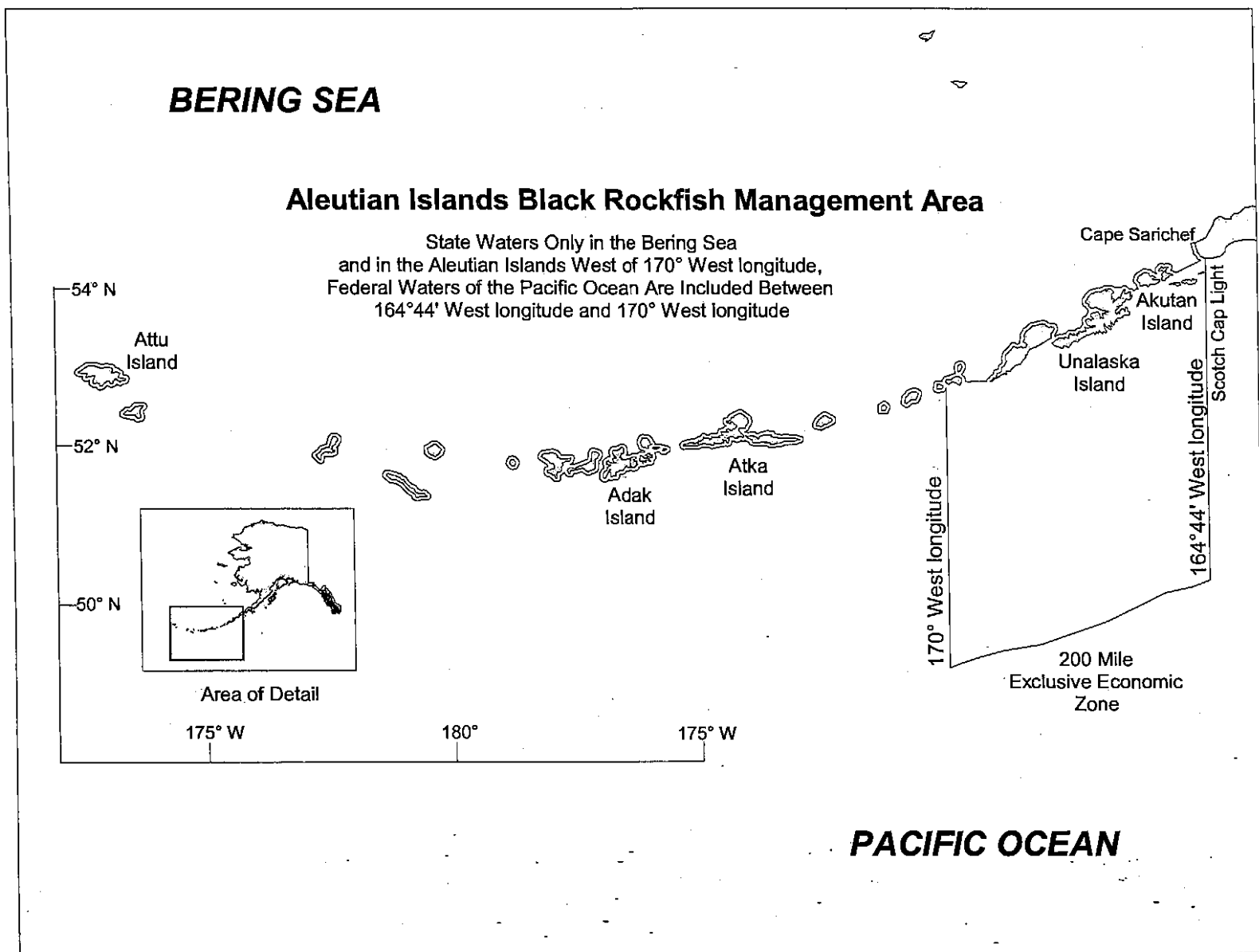


Figure 11. The Aleutian Islands black rockfish registration area.

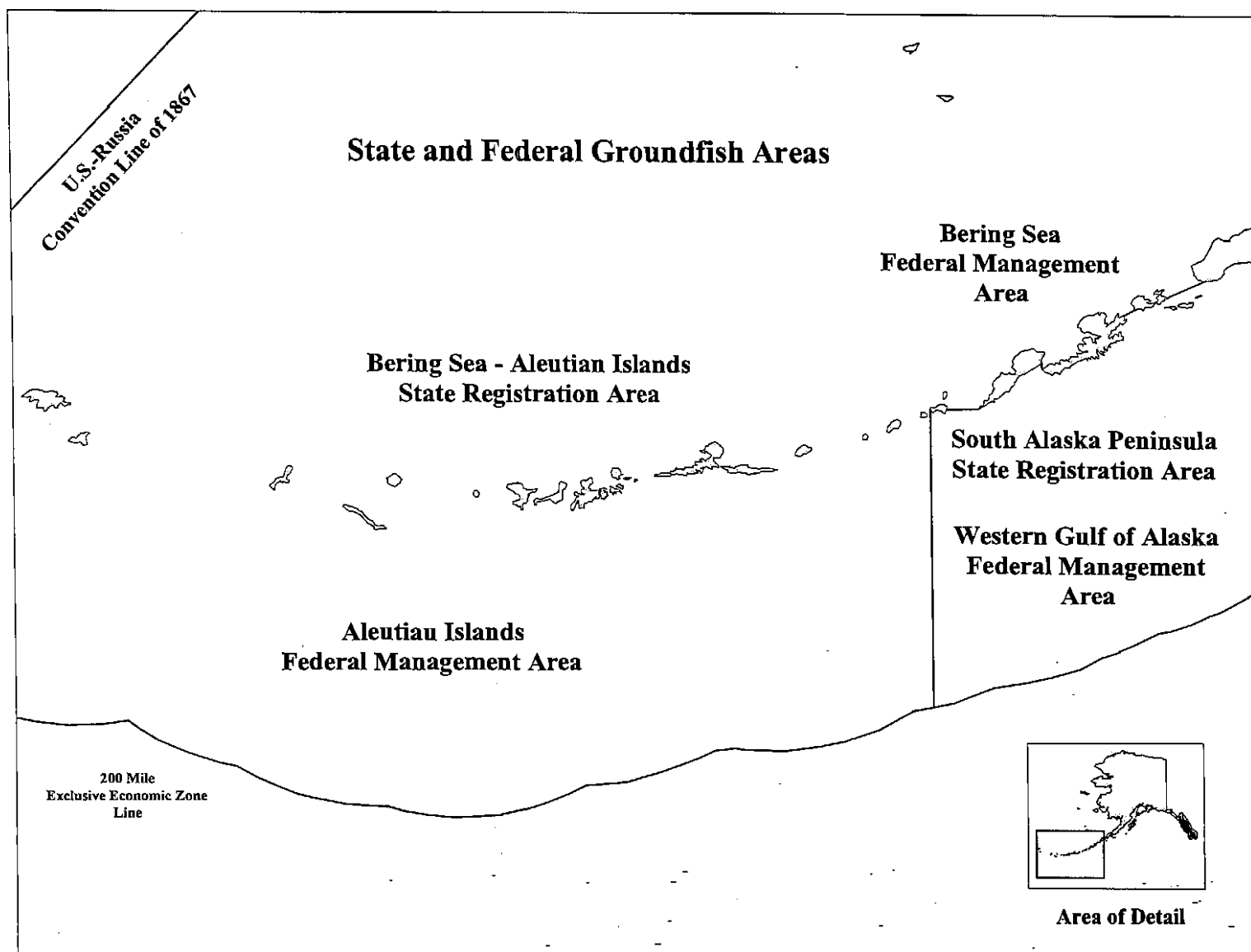


Figure 12. The state registration and federal management areas of the Aleutian Islands black rockfish fishery area.

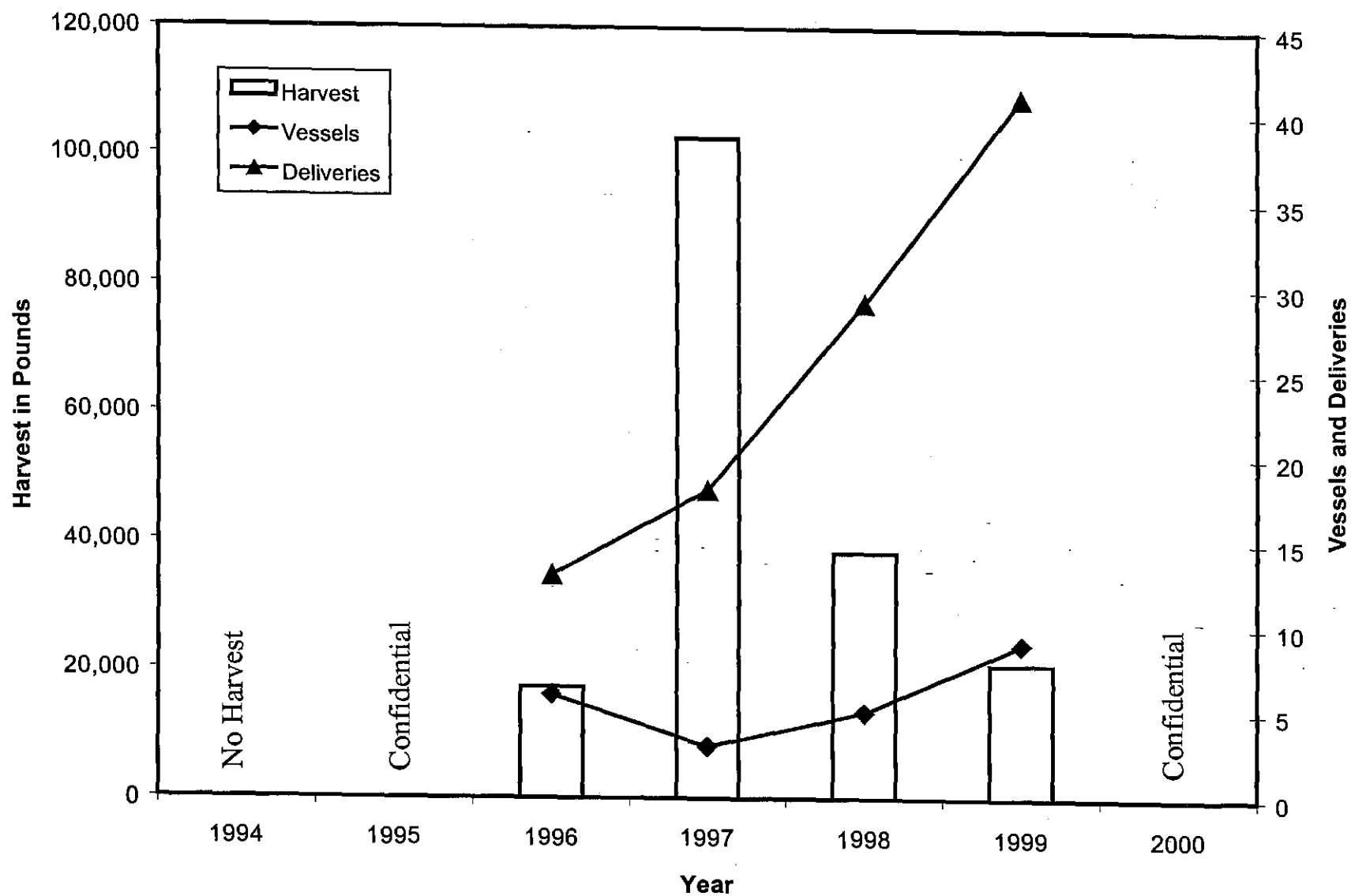


Figure 13. Harvest, number of vessels, and deliveries in the Aleutian Islands rockfish fishery, 1994 - 2000.

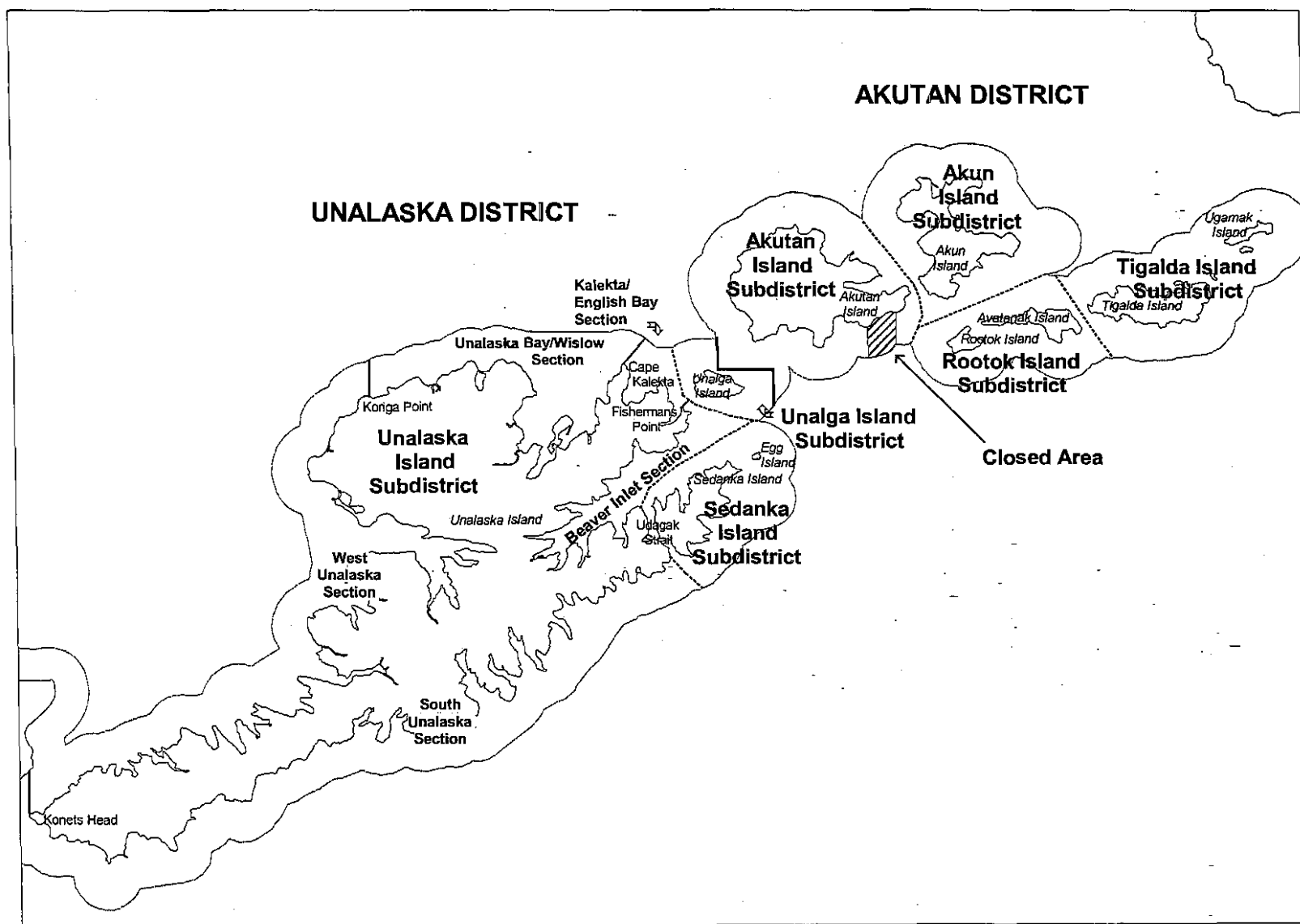


Figure 14. The Unalaska and Akutan Districts of the Aleutian Island black rockfish fishery showing subdistricts and sections.

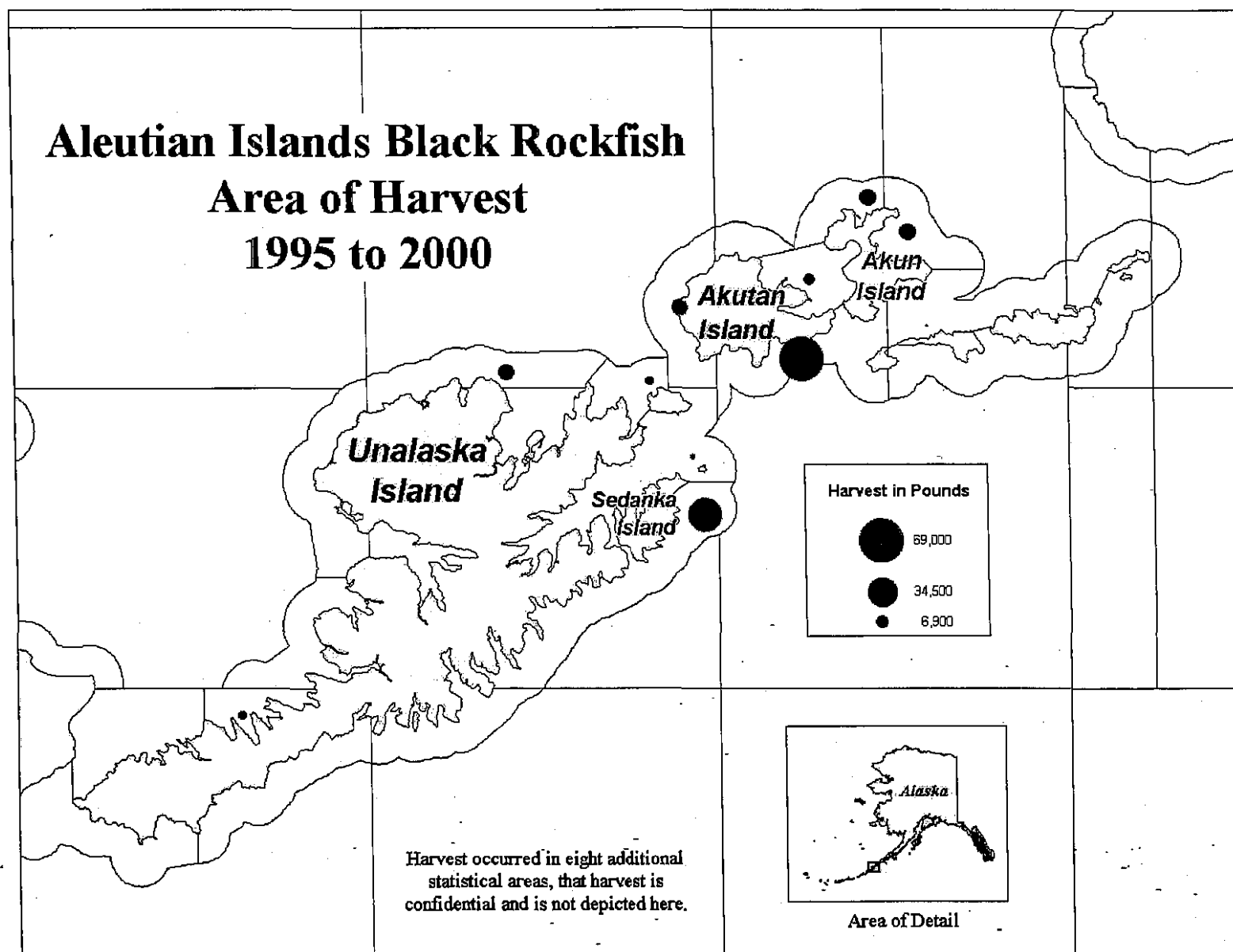


Figure 15. Observed harvest areas in the black rockfish fishery, 1995 - 2000.



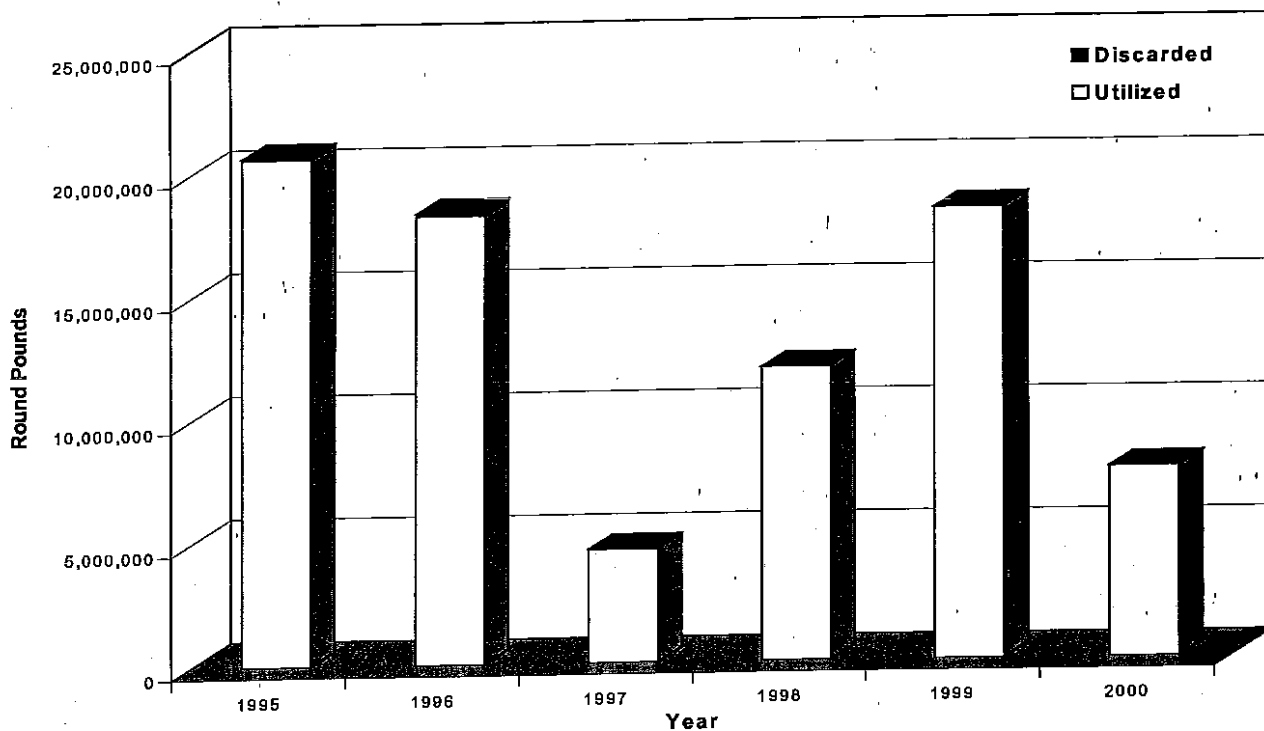


Figure 17. Harvest of Pacific cod from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

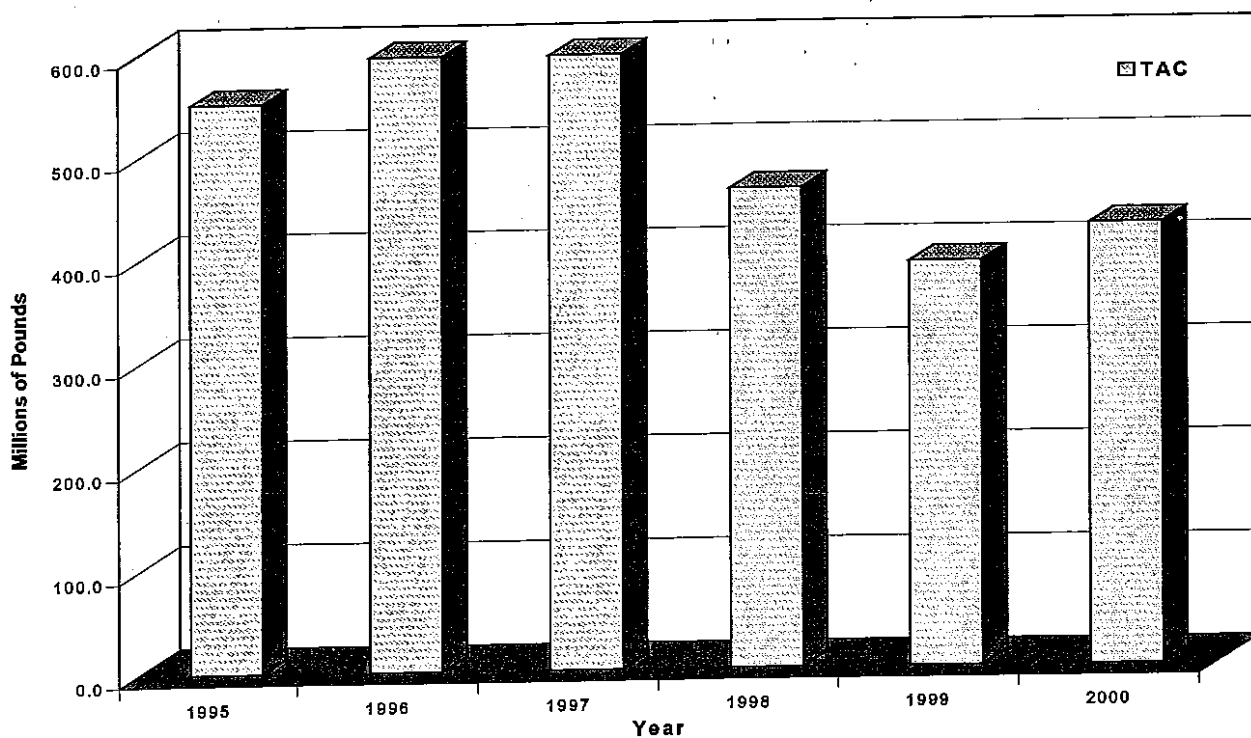


Figure 18. Total allowable catch (TAC) of Pacific cod in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.



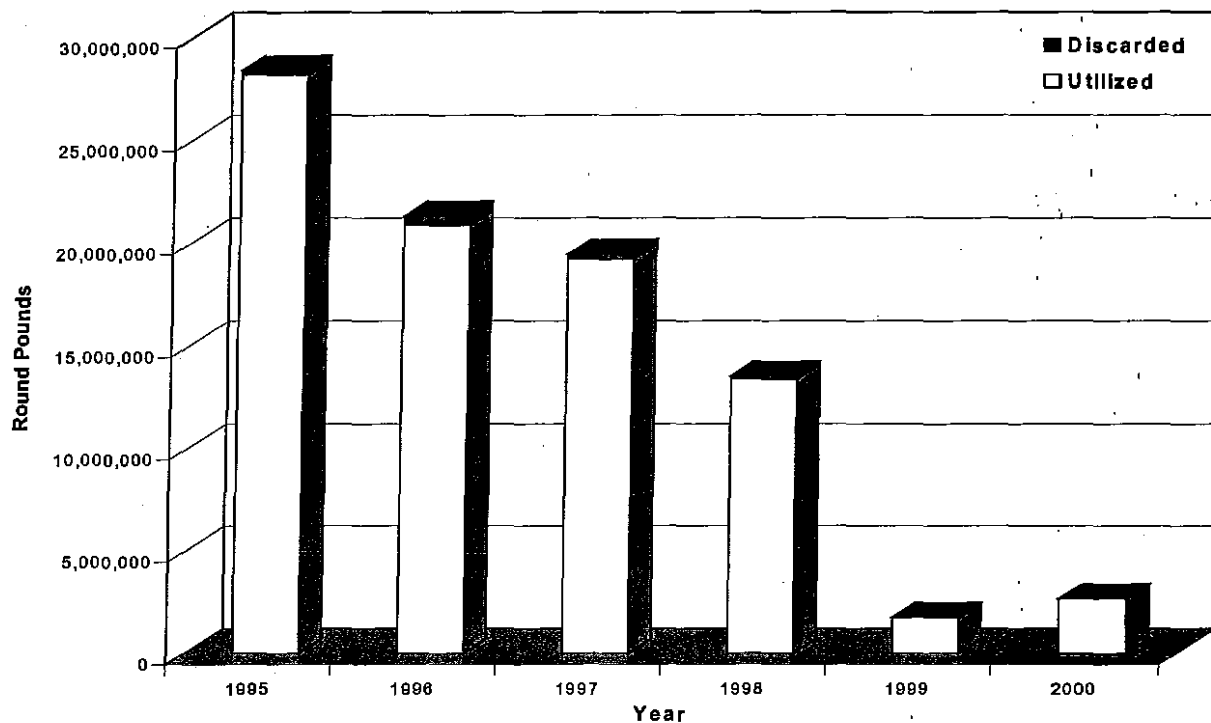


Figure 19. Harvest of pollock from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

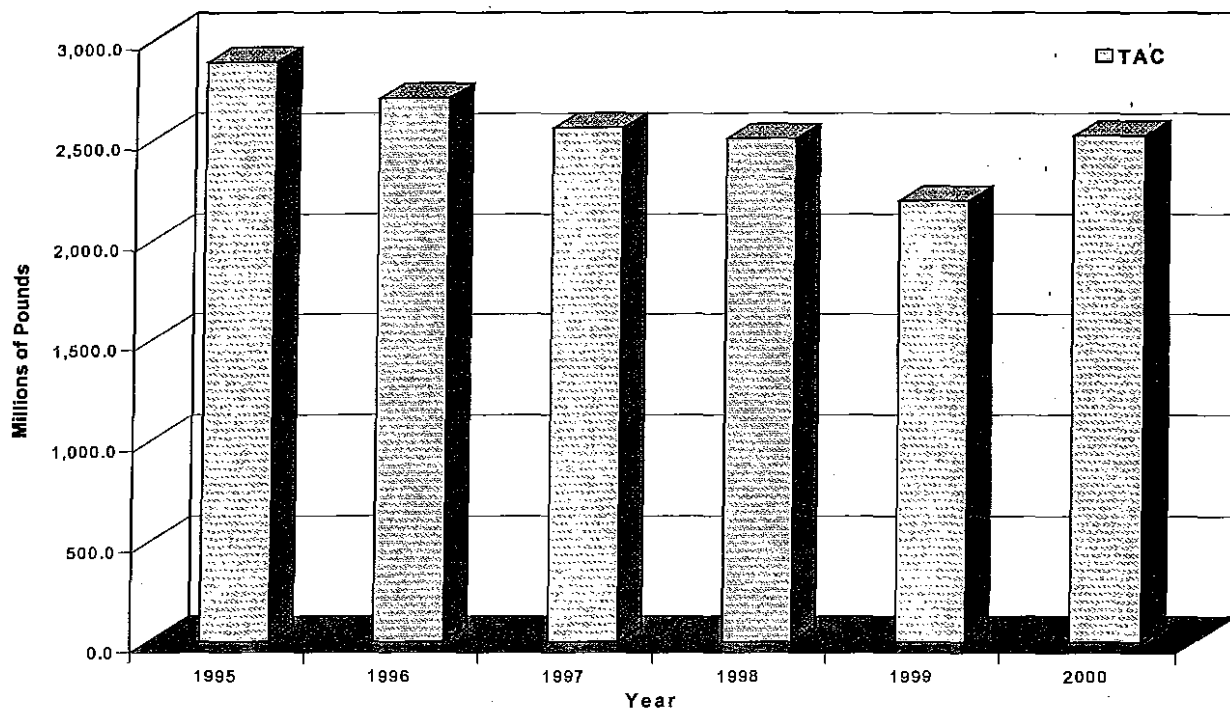


Figure 20. Total allowable catch (TAC) of pollock in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

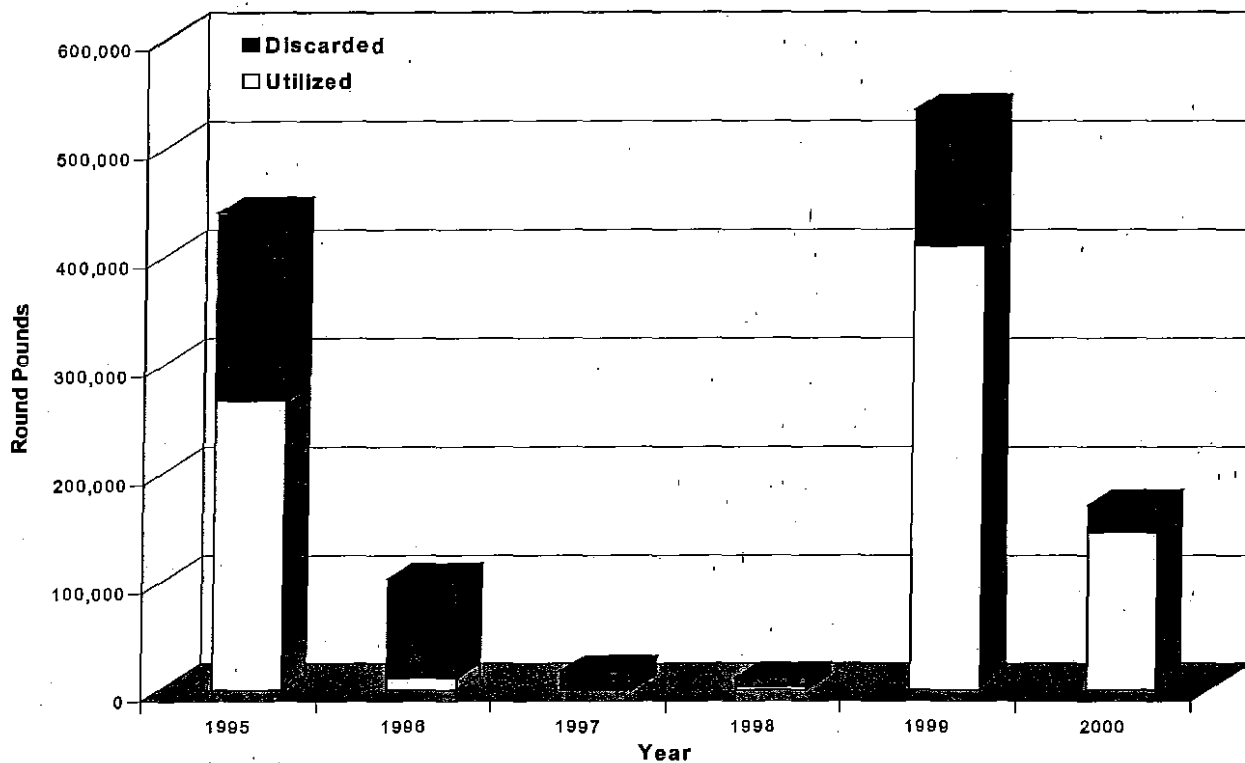


Figure 21. Harvest of Atka mackerel from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

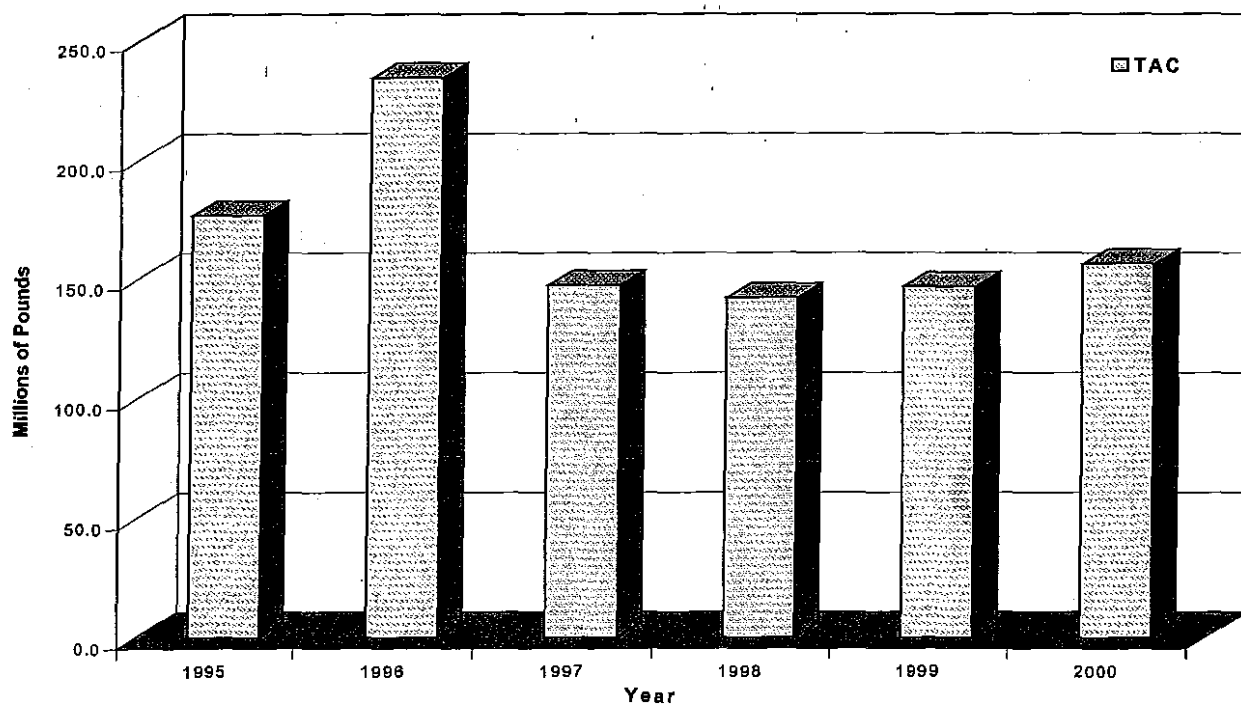


Figure 22. Total allowable catch (TAC) of Atka mackerel in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

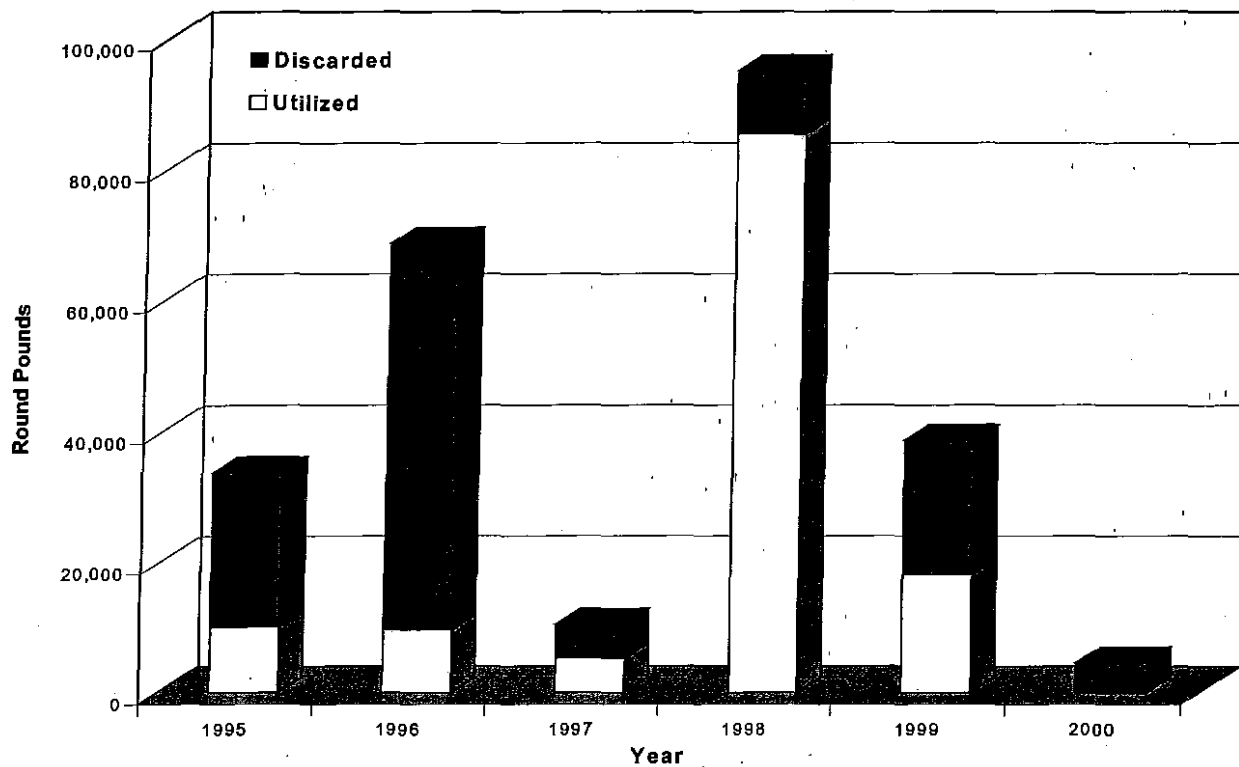


Figure 23. Harvest of Pacific ocean perch from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

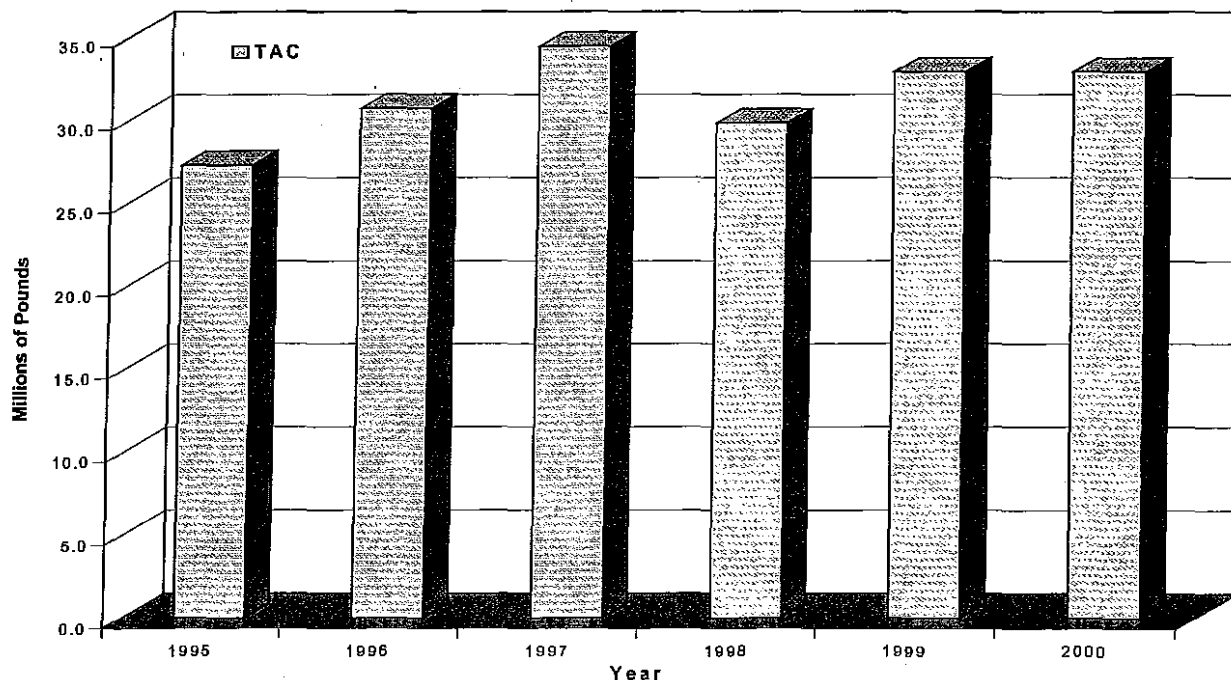


Figure 24. Total allowable catch (TAC) of Pacific ocean perch in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

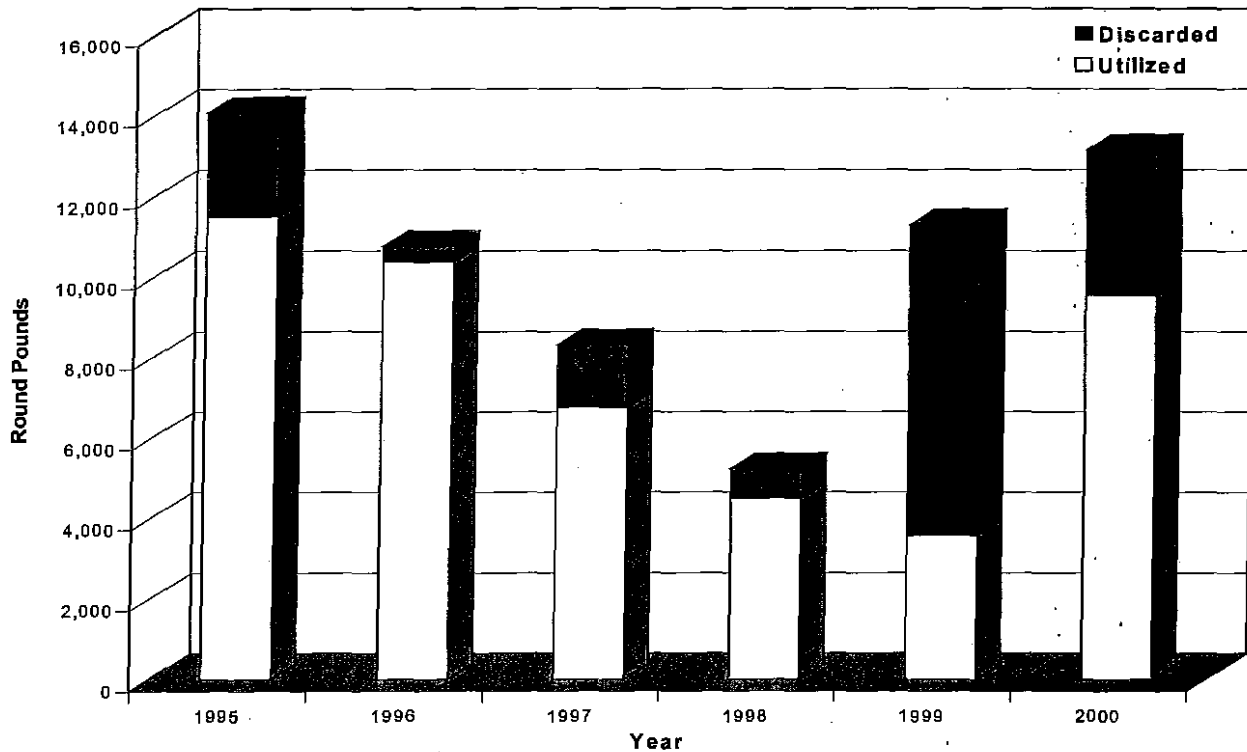


Figure 25. Harvest of Shortraker/Rougheye rockfish from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

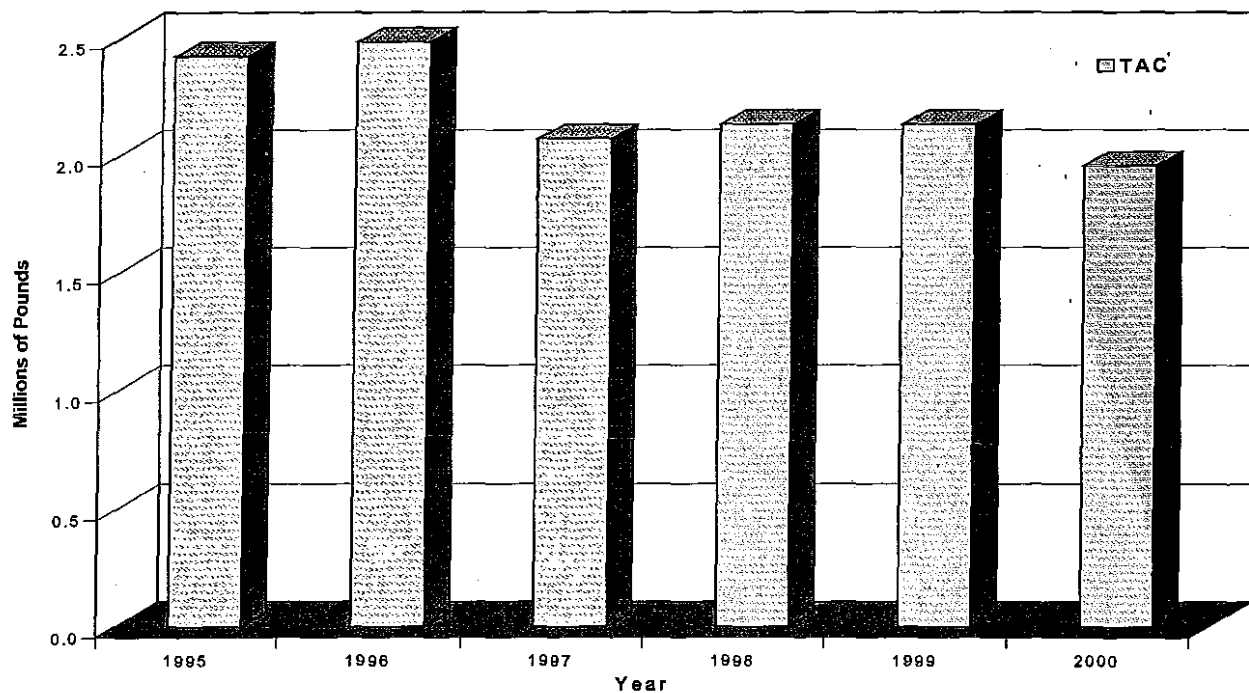


Figure 26. Total allowable catch (TAC) of Shortraker/Rougheye rockfish in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

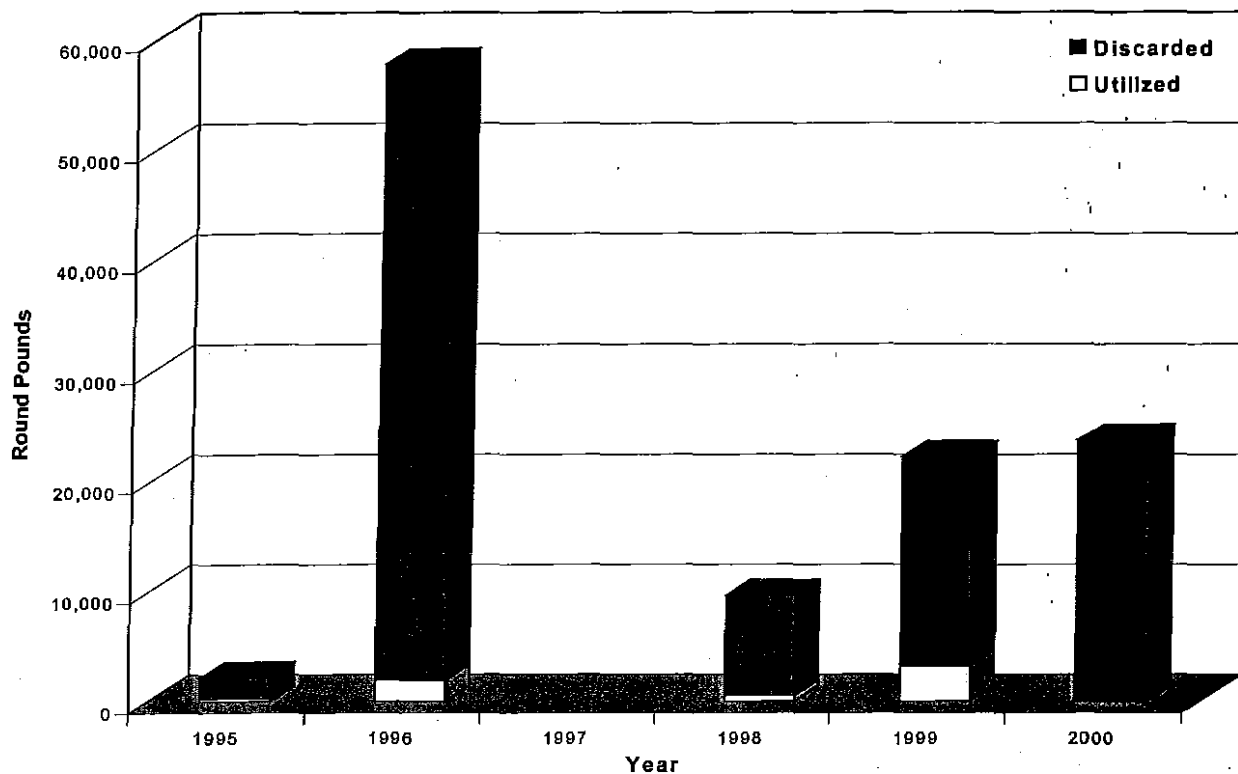


Figure 27. Harvest of Sharpchin/Northern rockfish from state waters of the Bering Sea - Aleutian Islands Area (Registration Area O), 1995 - 2000.

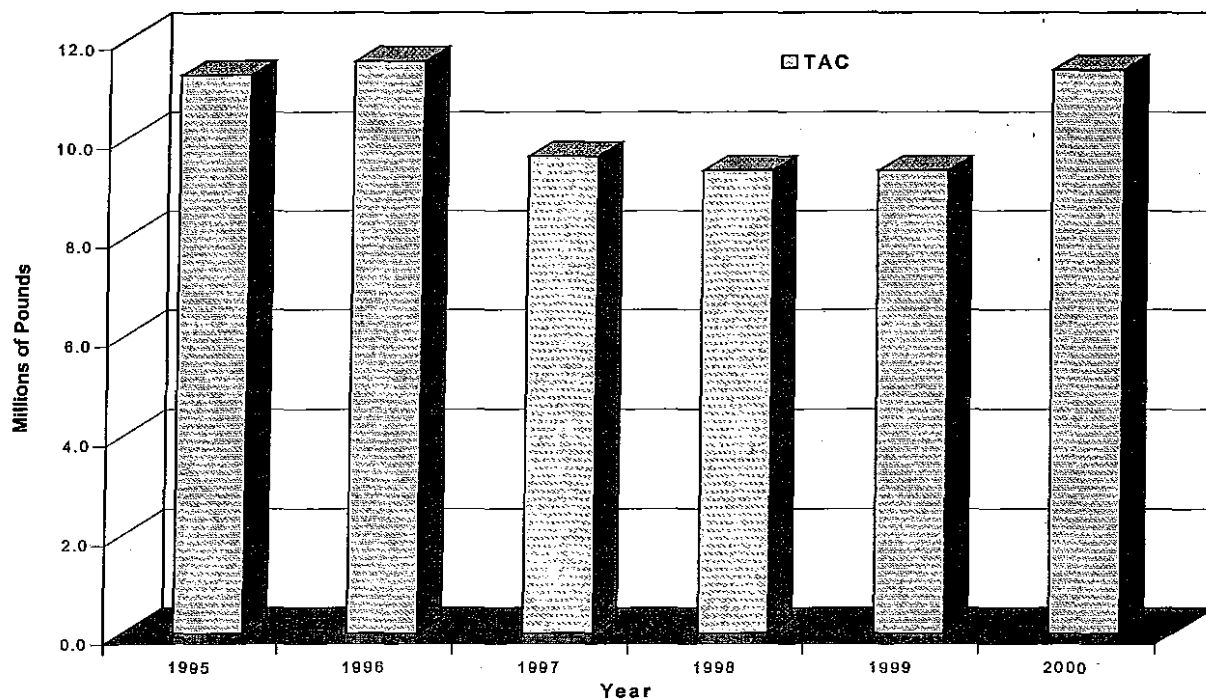


Figure 28. Total allowable catch (TAC) of Sharpchin/Northern rockfish in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

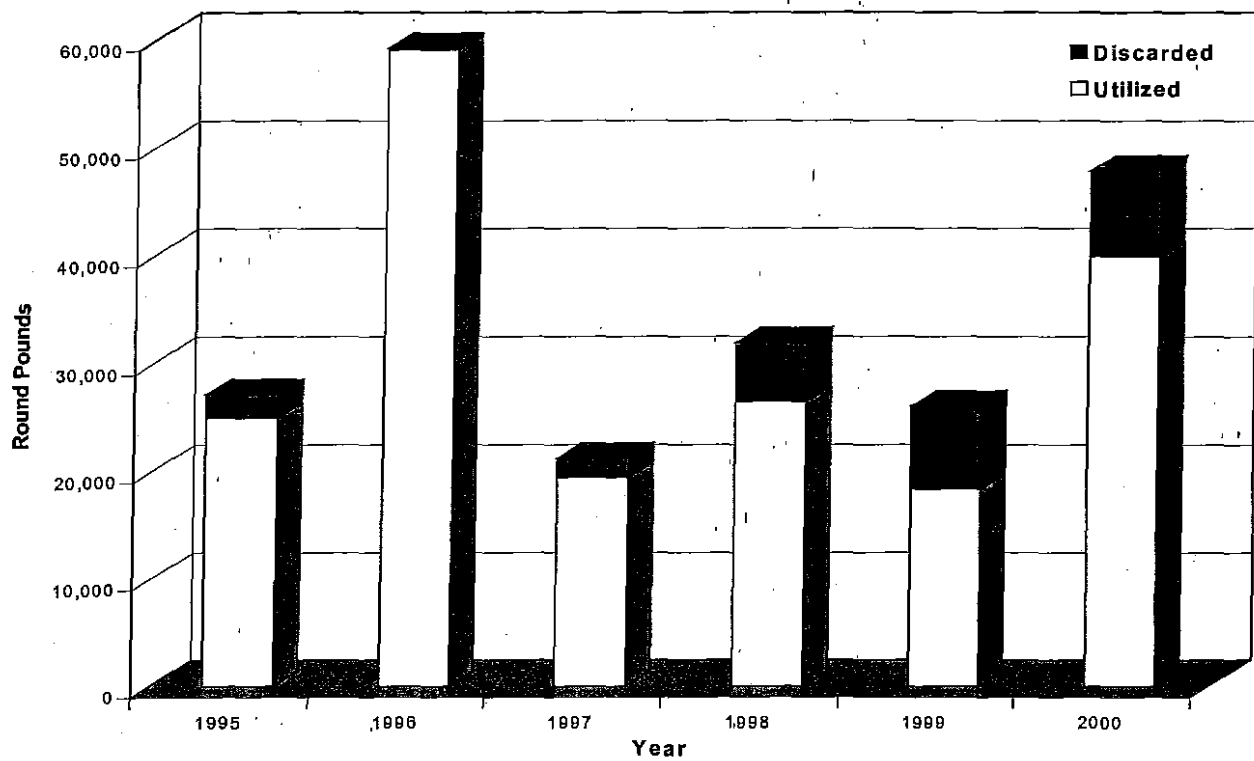


Figure 29. Harvest of other rockfish from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

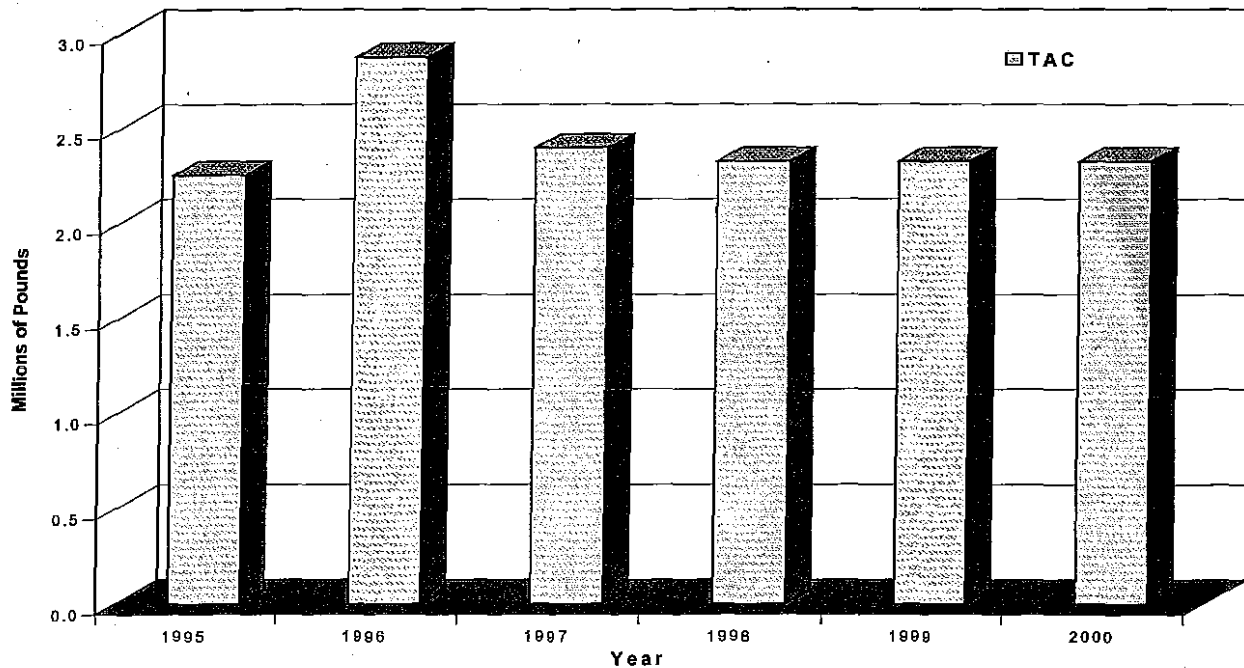


Figure 30. Total allowable catch (TAC) of other rockfish in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

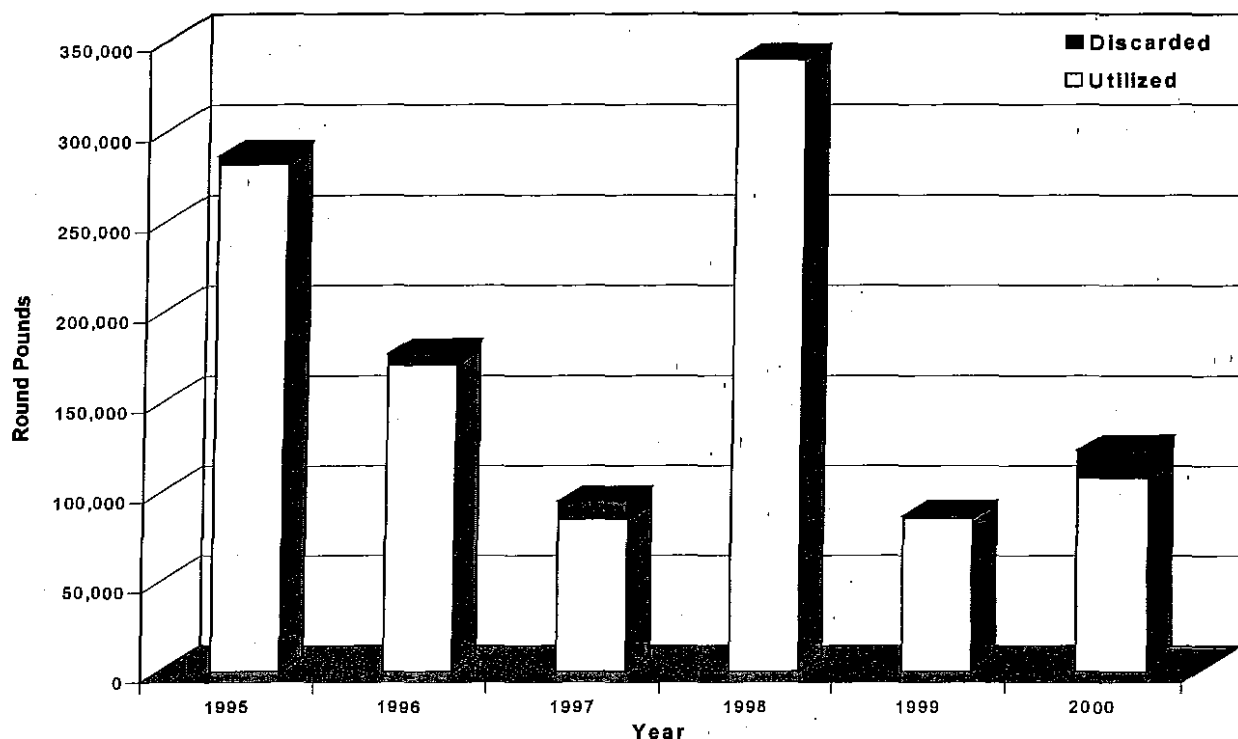


Figure 31. Harvest of Greenland turbot from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

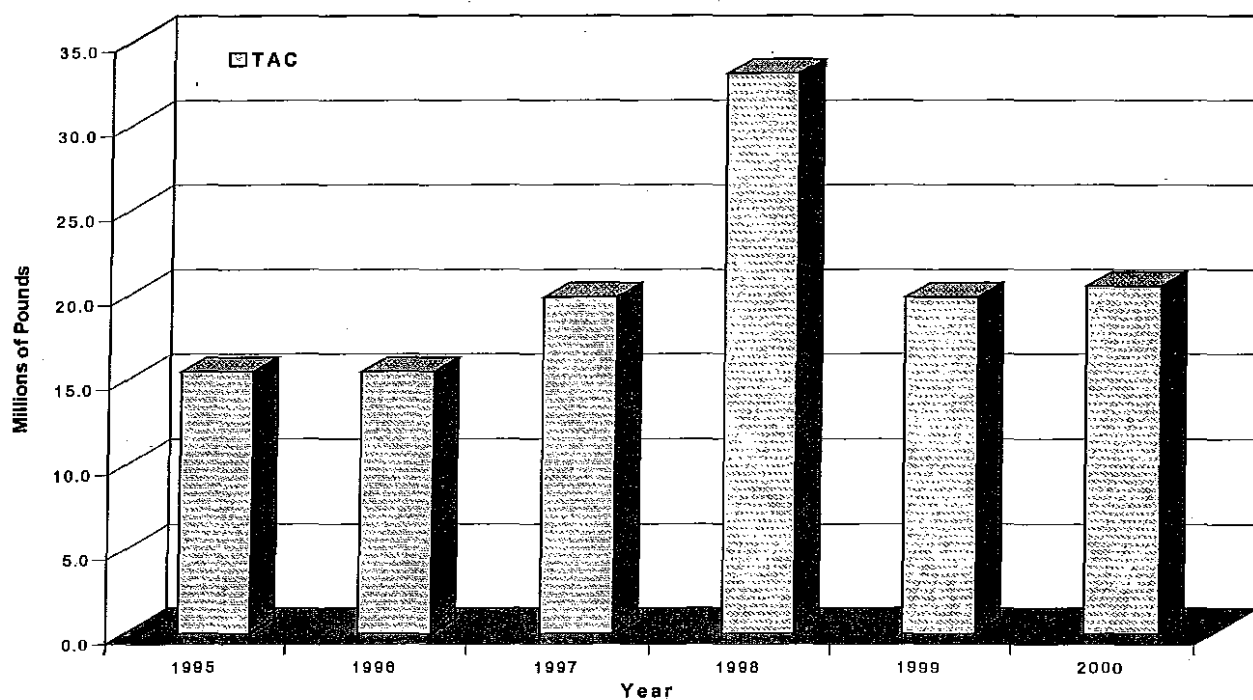


Figure 32. Total allowable catch (TAC) of Greenland turbot in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

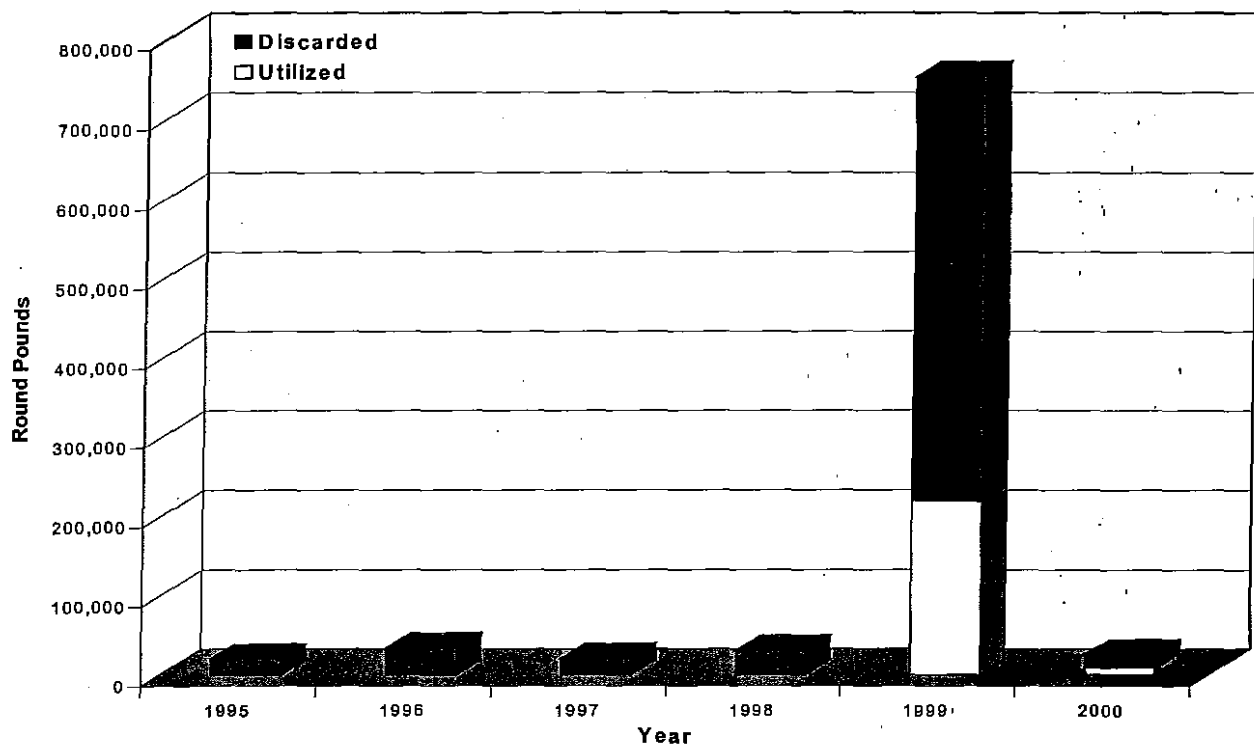


Figure 33. Harvest of Arrowtooth flounder from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

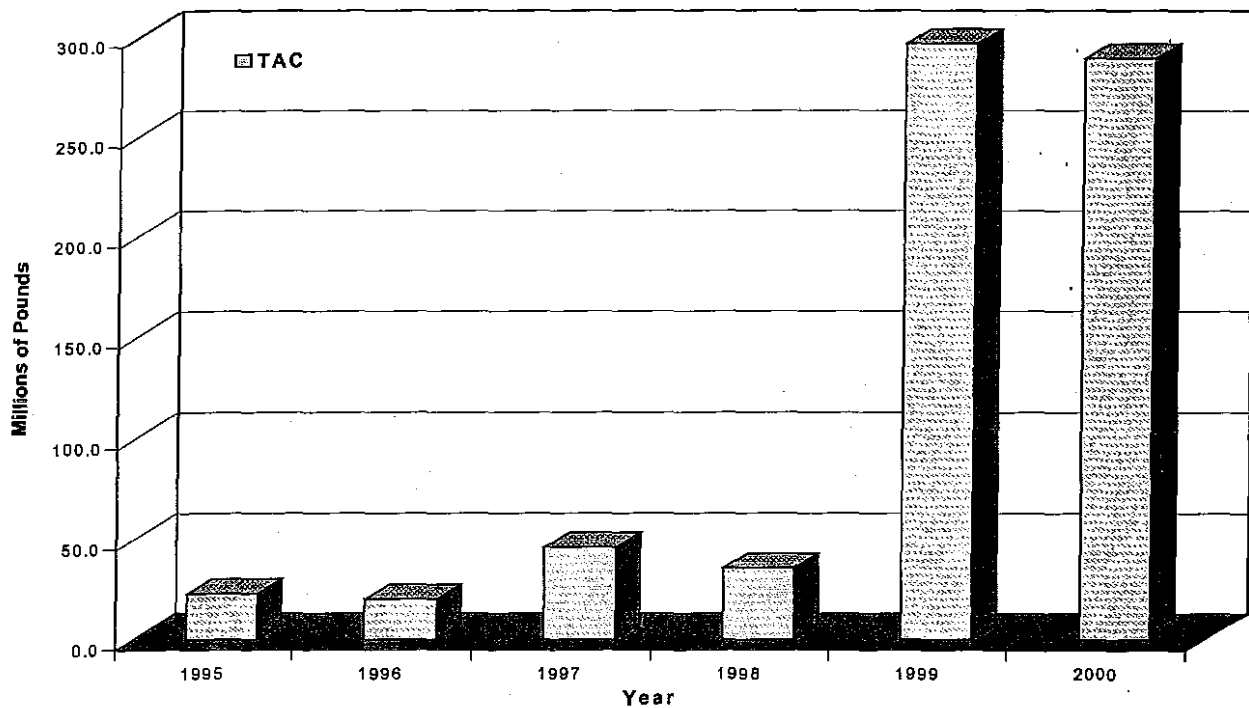


Figure 34. Total allowable catch (TAC) of Arrowtooth flounder in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.



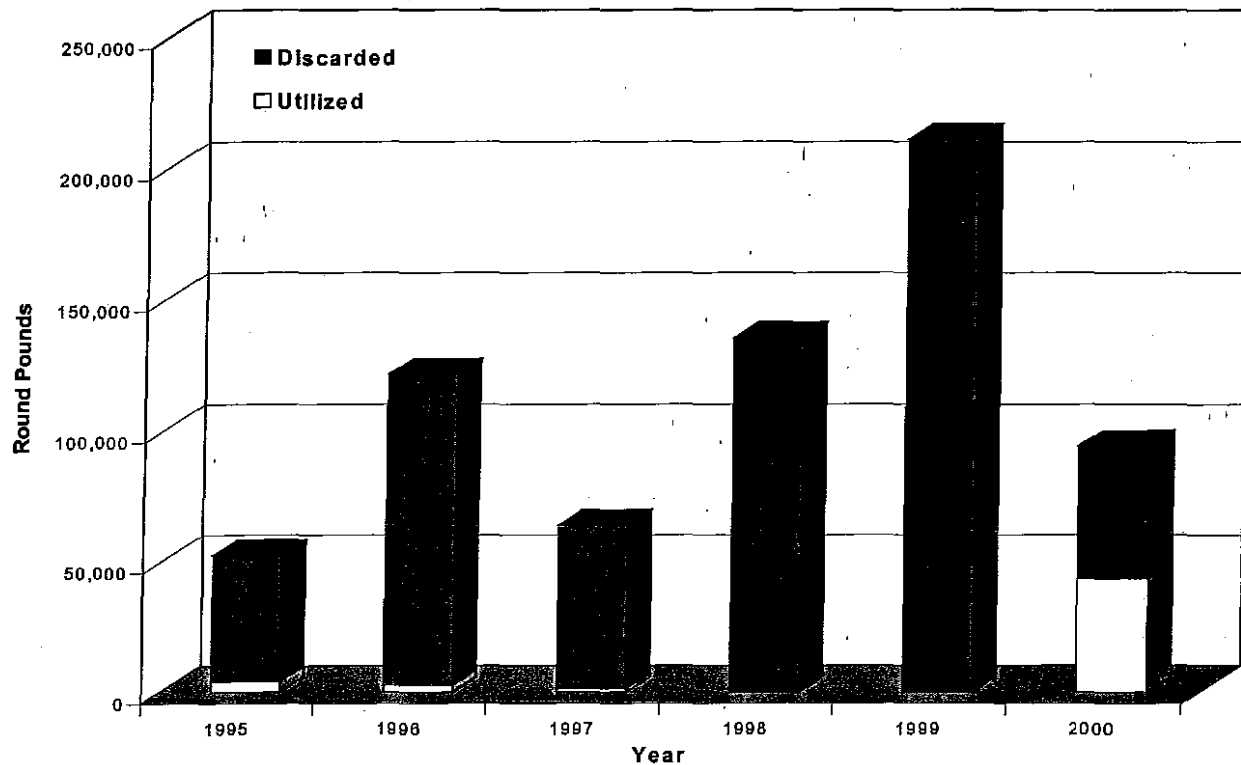


Figure 35. Harvest of rock sole from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

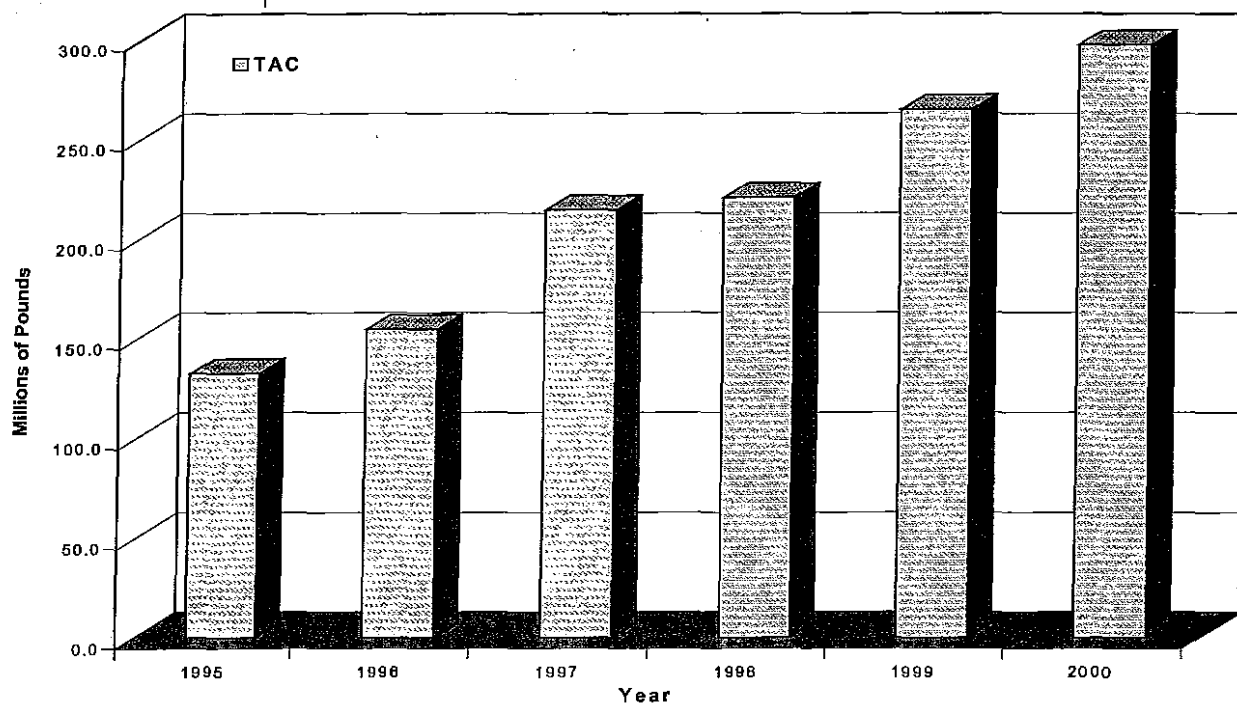


Figure 36. Total allowable catch (TAC) of rock sole in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

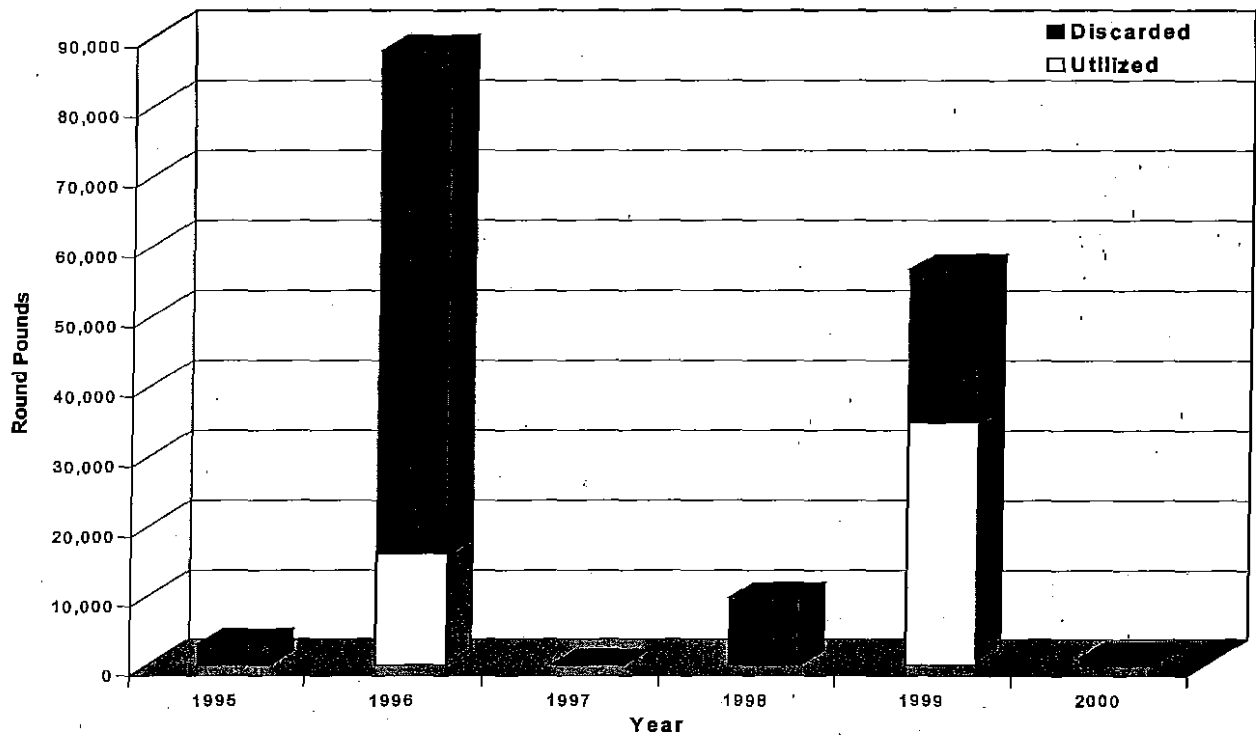


Figure 37. Harvest of yellowfin sole from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

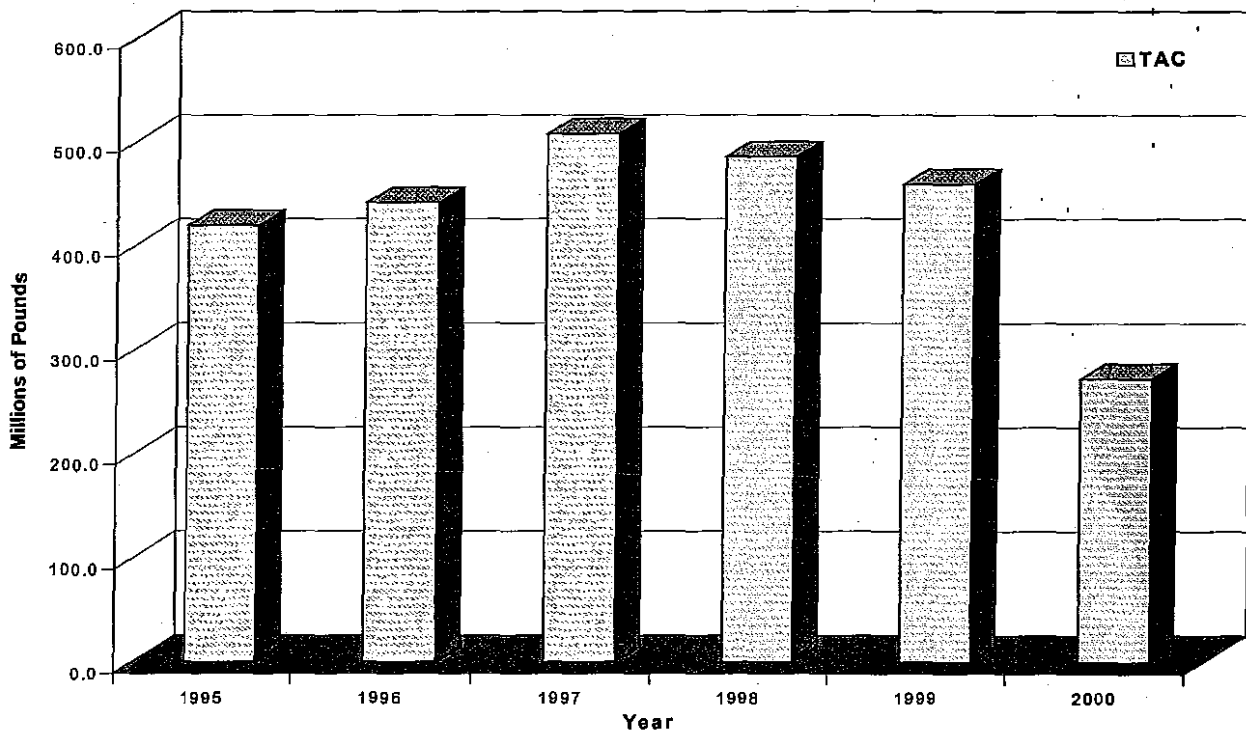


Figure 38. Total allowable catch (TAC) of yellowfin sole in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

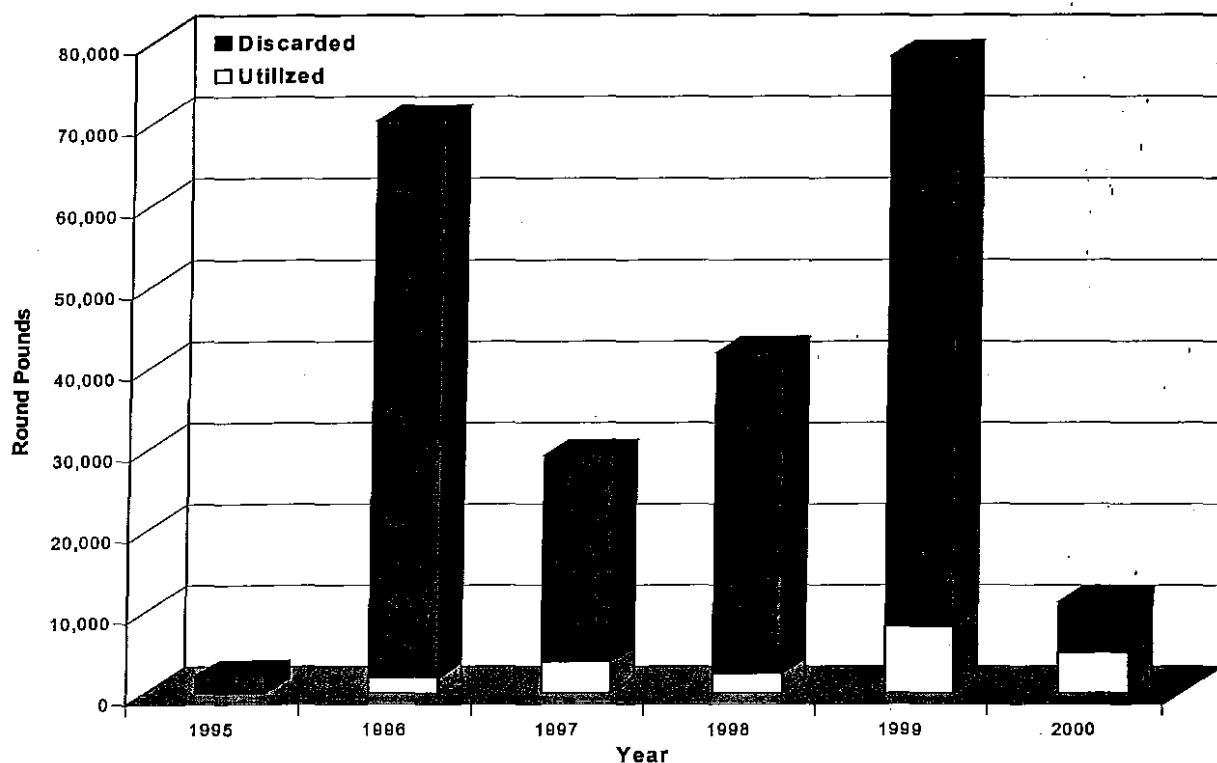


Figure 39. Harvest of flathead sole from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

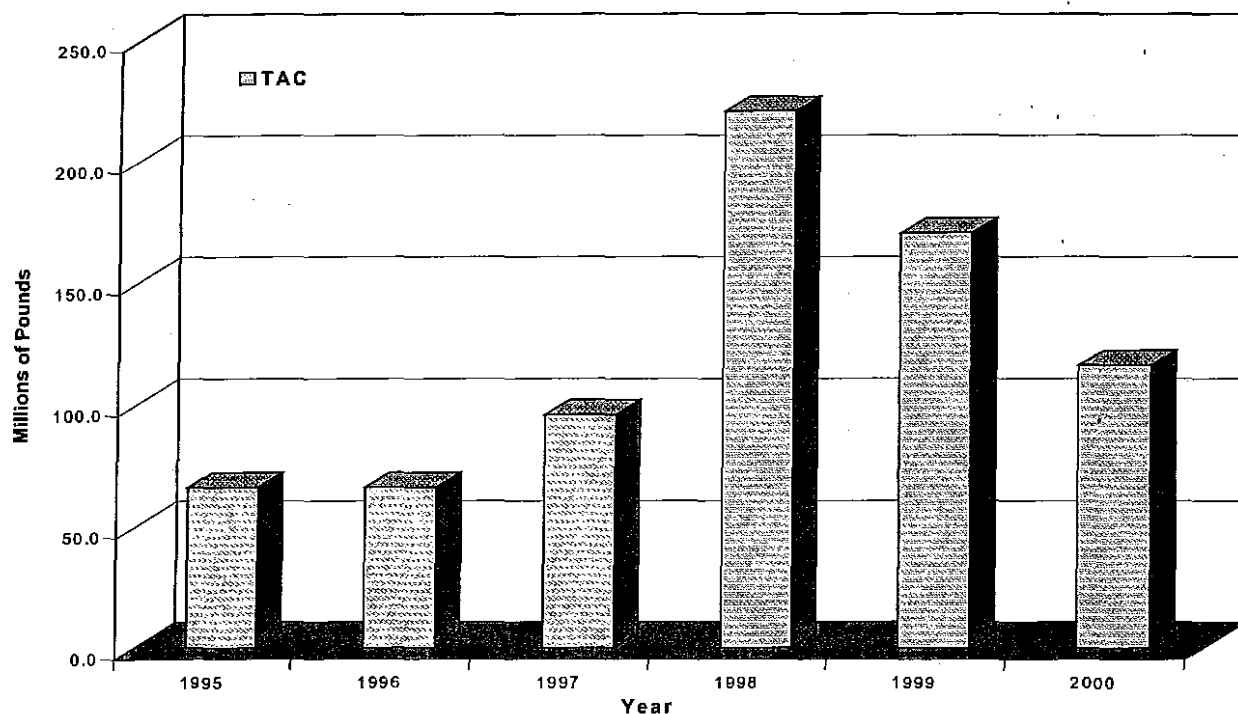


Figure 40. Total allowable catch (TAC) of flathead sole in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

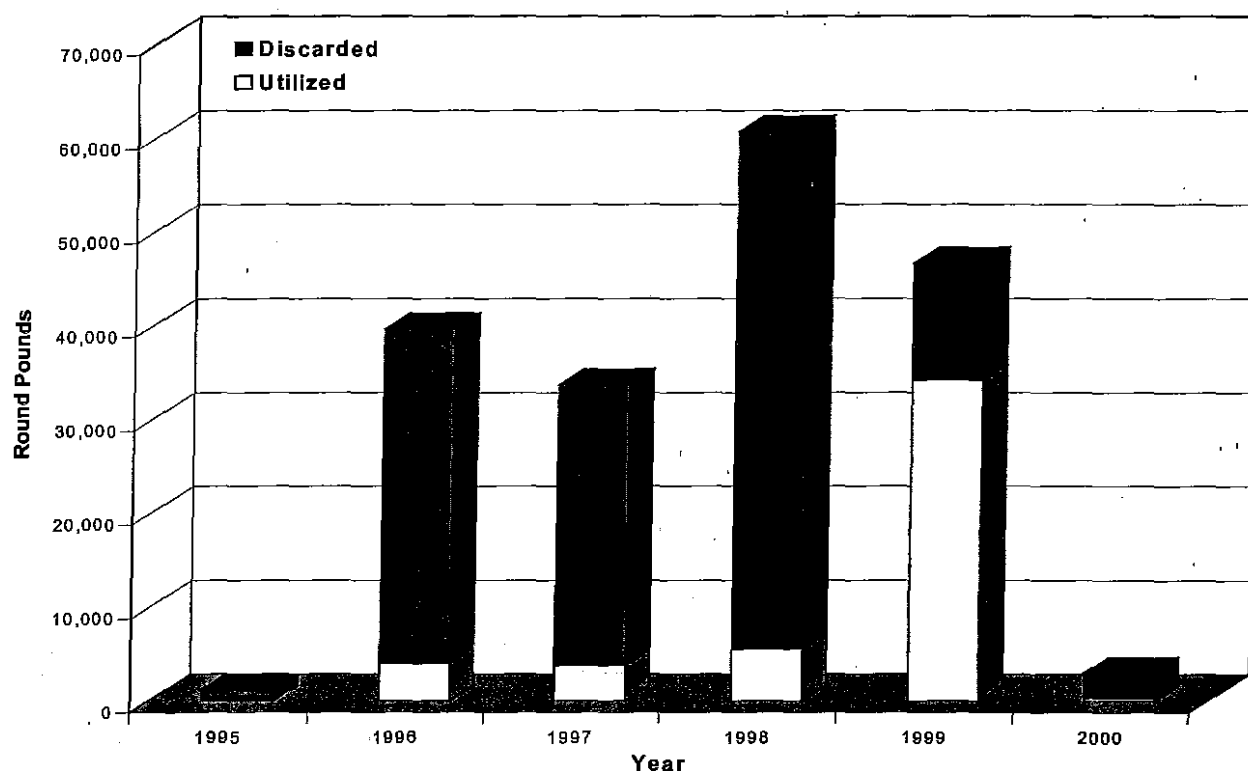


Figure 41. Harvest of other flatfish from state waters of the Bering Sea – Aleutian Islands Area (Registration Area O), 1995 - 2000.

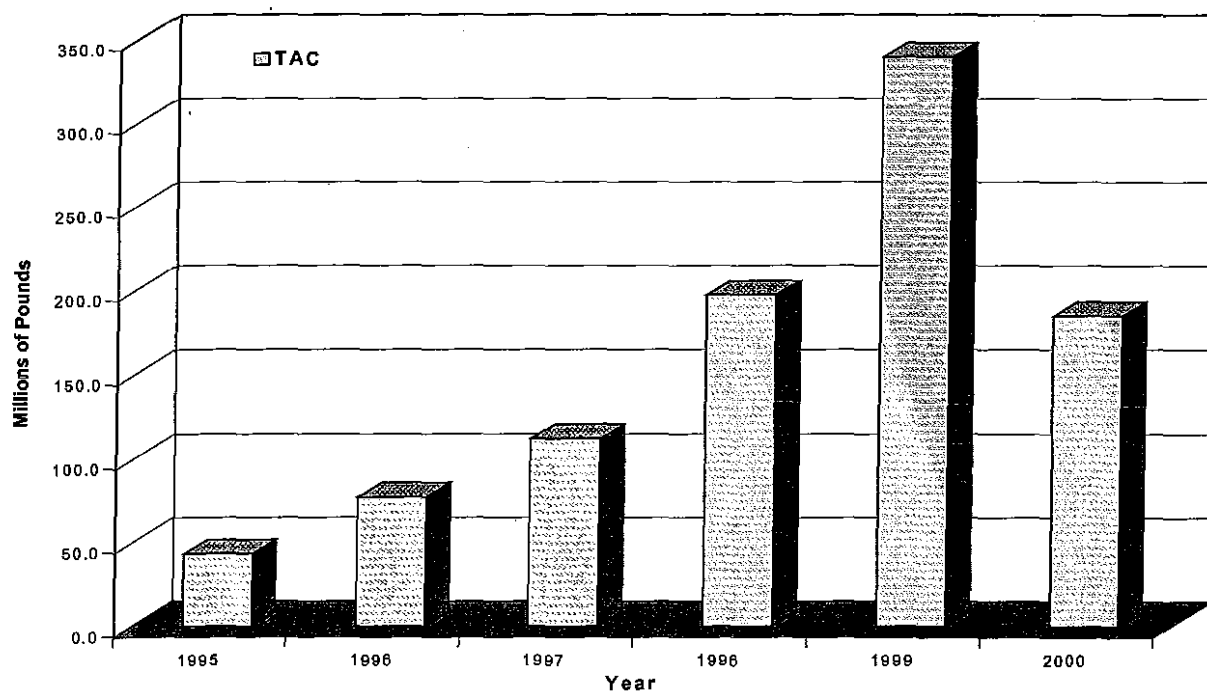


Figure 42. Total allowable catch (TAC) of other flatfish in the federal Bering Sea and Aleutian Islands Regulatory Areas, 1995 - 2000.

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